
APPENDIX W

Comments on the Draft EIS and Responses

This appendix contains copies of the public comments received on the DEIS, as well as FERC's responses to these comments. Note that some documents were filed with the FERC that contained additional information that could be used to develop the FEIS, but which were not considered as direct comments on the DEIS; these documents were used as applicable while developing the FEIS, but are not included in this Appendix. The following table lists the public comments that were received on the DEIS, as well as the accession number, date filed, and commenter's name (when provided). The public comments themselves, as well as FERC's responses to these comments, can be found after the summary table.

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
Applicants			
AP1	20150213-5184(30167127)	2/13/2015	Pam Barnes, Pacific Connector
Companies and Organizations			
CO1	20141217-5037(29992120)	12/17/2014	Southern Oregon Climate Action Now
CO2	20150210-5151(30152965)	2/10/2015	Richard K. Nawa, Staff Ecologist, Klamath Siskiyou Wildlands Center
CO3	20141222-0075(30011455)	12/22/2014	Joseph Patrick Quinn
CO4	20141222-5040(30006156)	12/22/2014	Chuck Erickson, Dir. Clam Diggers Association of OR
CO5	20141224-0034(30026226)	12/24/2014	Climate Crisis Working Group
CO6	20141230-5260(30022382)	12/30/2014	Western Environmental Law Center
CO7	20150114-5226(30060056)	1/14/2015	Kathleen M. Sgamma, Western Energy Alliance
CO8	20150203-5164(30124572)	2/3/2015	George Sexton, Klamath Siskiyou Wildlands Center
CO9	20150120-0007(30079021)	1/16/2015	Save Our Rural Oregon
CO10	20150126-0093(30096290)	1/26/2015	Douglas County Global Warming Coalition
CO11	20150128-0024(30104833)	1/28/2015	Ralph Browning Jackson County Democrats
CO12	20150212-5044(30159612)	2/12/2015	North America's Building Trades Unions
CO13	20150212-5121(30162305)	2/12/2015	Oregon Wild
CO14	20150212-5143(30163043)	2/12/2015	Friends of the Earth
CO15	20150212-5199(30163854)	2/12/2015	Colorado Oil and Gas Association
CO16	20150213-5032(30163957)	2/12/2015	Green America
CO17	20150213-5040(30163980)	2/13/2015	Cascadia Wildlands
CO18	20150213-5041(30163975)	2/13/2015	Oregon Women's Land Trust
CO19	20150212-0045(30165399)	2/12/2015	Bay Clinic, LLP
CO20	20150212-0059(30165425)	2/12/2015	Save Our Rural Oregon
CO21	20150213-5079(30165495)	2/13/2015	Coast Range Forest Watch
CO22	20150213-5099(30166115)	2/13/2015	Southern Oregon Climate Action Now
CO23	20150213-5318(30168013)	2/13/2015	Kalmiopsis Audubon Society
CO24	20150213-5158(30166574)	2/13/2015	The League of Women Voters Rogue Valley
CO25	20150213-0007(30167884)	2/12/2015	Klamath Siskiyou Wildlands Center (determined to be a duplicate letter of CO2)
CO26	20150213-5299(30167998)	2/13/2015	Columbia Riverkeeper
CO27	20150213-5194(30167338)	2/13/2015	Northwest Industrial Gas Users
CO28	20150213-5199(30167385)	2/13/2015	Cascadia Forest Defenders

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
CO29	20150213-5276(30167945)	2/13/2015	Pacific Crest Trail Association
CO30	20150213-5214(30167413)	2/13/2015	International Union of Operating Engineers
CO31	20150213-5222(30167492)	2/13/2015	Center for Sustainable Economy
CO32	20150213-5242(30167534)	2/13/2015	Seneca Jones Timber Company
CO33	20150213-5311(30168002)	2/13/2015	Our Children's Trust
CO34	20150213-5259(30167809)	2/13/2015	The Western Environmental Law Center, Sierra Club, Waterkeeper Alliance, Center for Biological Diversity, Oregon Shores Conservation Coalition, Umpqua Watersheds, Cascadia Wildlands, Oregon Wild, Crag Law Center, Pipeline Awareness Southern Oregon, Southern Oregon Rural Community Partnership, Bob Barker, Coast Range Forest Watch, Rogue Climate, Rogue Riverkeeper, Klamath Riverkeeper, Columbia Riverkeeper, Food & Water Watch, Rogue Flyfishers, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, 350EUGENE and Klamath-Siskiyou Wildlands Center
CO35	20150217-5102(30168248)	2/13/2015	Jayson Wartnik, Coos-Curry Small Woodlands Association
CO36	20150217-5148(30168439)	2/13/2015	John Mohlis (Oregon State Building and Construction Trades Council) Robert Westerman, Nelda Wilson, Doug Tweedy, Al Shropshire, Joe Bowers, Lennie Ellis, Jeff Gritz, John Candioto, Gary Young, Brett Hinsley, Timothy Frew
CO37	20150217-5155(30168548)	2/13/2015	Fred Messerle and Sons INC
CO38	20150217-5101(30168246)	2/13/2015	Jeff Messerle, Vice President, Messerle & Sons
CO39	20150217-5145(30168435)	2/13/2015	Jody McCaffree, CALNG
CO40	20150217-5154(30168542)	2/13/2015	Jason Messerle, Vice President, Messerle & Sons
Federal Agency or Elected Official			
FA1	20141229-0087(30026300)	12/19/2014	Ron Wyden, United States Senator
FA2	20150115-0026(30064961)	1/13/2015	John Barrasso, United States Senator; Cynthia Lummis, U.S. Representative; Cory Gardner, United States Senator; Scott Tipton, U.S. Representative; Michael Enzi, United States Senator; Doug Lamborn, U.S. Representative; Orrin Hatch, United States Senator; Mike Coffman, U.S. Representative; Mike Lee, United States Senator; Rob Bishop, U.S. Representative; Chris Stewart, U.S.

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
			Representative; Jason Chaffetz, U.S. Representative; Ken Buck, U.S. Representative; Mia Love U.S. Representative
FA3	20150204-0013(30126643)	2/3/2015	Jeffrey A. Merkley, United States Senator
FA4	20150204-0012(30128167)	2/3/2015	Ron Wyden, United States Senator
FA5	20150210-5154(30152999)	2/11/2015	Palmer Jenkins, Deputy Regional Director Planning and Resource Management for the Parks Service
FA6	20150212-5113(30162239)	2/12/2015	Environmental Protection Agency
FA7	20150213-5177(30167097)	2/13/2015	Fish and Wildlife Service
Individual			
IND1	20141120-5006(29931322)	11/19/2014	Tim Nebergall
IND2	20141208-0041(29962853)	12/8/2014	Kathy Staley
IND3	20141222-5049(30006281)	12/21/2014	Jonathan Hanson
IND4	20141125-5212(29940982)	11/25/2014	Bayla Greenspoon
IND5	20141203-5015(29950575)	12/3/2014	John Sodrel
IND6	20141110-5149(29909410)	11/10/2014	Don Ewing
IND7	20141218-5003(29994654)	12/17/2014	Patricia Hine
IND8	20141229-5062(30018436)	12/29/2014	Roberta Cade
IND9	20141201-5003(29944088)	12/1/2014	Ryan Navickas
IND10	20141110-5041(29907776)	11/9/2014	Pamela Driscoll
IND11	20141117-5014(29919899)	11/15/2014	Nadya Hase
IND12	20141117-5023(29919917)	11/16/2014	Lana Gold
IND13	20141117-5025(29919921)	11/17/2014	Byron Harmon
IND14	20141117-5110(29921894)	11/17/2014	Jackie Johnson
IND15	20141119-5003(29927789)	11/18/2014	Jain Elliot
IND16	20141120-0029(29931866)	11/12/2014	Stephen Amy
IND17	20141120-5000(29931302)	12/19/2014	Sheryl Kaplan
IND18	20141120-5003(29931310)	11/19/2014	Kaseja Wilder
IND19	20150211-5135(30156294)	2/11/2015	Mark Wall
IND20	20141124-5025(29934998)	11/23/2014	Cheryl Robinson
IND21	20150211-5151(30156551)	2/11/2015	Meggan H McLarrin
IND22	20150211-5154(30156655)	2/11/2015	Dennis J Coplin Sr
IND23	20141124-5028(29935000)	11/23/2014	Cheryl Robinson
IND24	20141125-5004(29938252)	11/24/2014	Kai Forlie
IND25	20141125-5034(29938397)	11/24/2014	Mark Sheldon
IND26	20141125-5273(29941298)	11/25/2014	Julie A Jennings
IND27	20141128-5007(29943241)	11/27/2014	Mark Sheldon
IND28	20141201-0063(29947038)	12/1/2014	Fredric ("Fred") L. Fleetwood
IND29	20141201-4011(29950447)	12/1/2014	Kathi Windsor, David Schmidt
IND30	20150211-5163(30156914)	2/11/2015	Maya Rommwatt
IND31	20141203-0021(29951763)	12/3/2014	Tamaca Wyndham
IND32	20141204-5000(29953226)	12/3/2014	Mary Sharon

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND33	20141204-5005(29954494)	12/3/2014	Leslie Burpo
IND34	20141204-5009(29953239)	12/3/2014	Dawn M. Albanese
IND35	20141205-5154(29957498)	12/5/2014	Jemma Crae
IND36	20141208-5033(29958707)	12/6/2014	Mary DeMocker
IND37	20141208-5034(29958709)	12/6/2014	Mary DeMocker
IND38	20141208-5043(29958727)	12/6/2014	Barbara Dickinson
IND39	20141208-5051(29958743)	12/6/2014	Gregory Zorn
IND40	20141208-5116(29958927)	12/7/2014	Sylvia Yamada Ph.D.
IND41	20141209-5003(29962857)	12/8/2014	Joshua Berger
IND42	20141209-5004(29962859)	12/8/2014	Darly Morgan
IND43	20141209-5163(29966807)	12/9/2014	John and Polly Wood
IND44	20141210-5003(29966968)	12/9/2014	Michael Litt
IND45	20141210-5114(29970634)	12/10/2014	Karl Poehleman
IND46	20141211-5000(29971450)	12/10/2014	Conley Phillips
IND47	20150211-5164(30156931)	2/11/2015	Shelly Fort
IND48	20141211-5002(29971475)	12/10/2014	Connie Stopher
IND49	20141211-5010(29971488)	12/11/2014	Dan Burke
IND50	20141211-5011(29971491)	12/11/2014	Kaseja Wilder
IND51	20141211-5016(29971512)	12/10/2014	Charles B. Miller, Ph.D, Prof. of Oceanography Emeritus, Oregon State University
IND52	20141211-5046(29971928)	12/10/2014	Tom Bender
IND53	20150212-5018(30158623)	2/11/2015	Barbara Gimlin
IND54	20141211-5176(29976589)	12/11/2014	Jessica Eckhoff
IND55	20141212-5000(29976606)	12/11/2014	Vanessa Friedman
IND56	20141212-5017(29976683)	12/11/2014	Tom Bender
IND57	20141215-5000(29980470)	12/12/2014	Robert Altaras
IND58	20141215-5010(29980490)	12/13/2014	Curtis Clark
IND59	20141215-5013(29980496)	12/13/2014	Michael Young
IND60	20141215-5020(29980510)	12/14/2014	Elise Haas
IND61	20141215-5244(29986555)	12/15/2014	Chuck Erickson
IND62	20141216-0022(29991704)	12/16/2014	Ron Sadler
IND63	20141217-5001(29991801)	12/16/2014	Joseph Viani
IND64	20141217-5003(29991824)	12/16/2014	Jen Anonia
IND65	20141217-5004(29991829)	12/16/2014	Jennifer Reed
IND66	20141217-5007(29991833)	12/16/2014	Mercedes Lackey
IND67	20141217-5110(29993666)	12/17/2014	Joseph Bayley
IND68	20141217-5113(29993826)	12/17/2014	Benton Elliott
IND69	20150211-5191(30157271)	2/11/2015	Kelly Caldwell
IND70	20141217-5168(29994326)	12/17/2014	Rodney Bohner
IND71	20141218-5008(29994745)	12/17/2014	Charles L Thomas
IND72	20141218-5009(29994747)	12/17/2014	Charles L Thomas
IND73	20141218-5046(29994881)	12/17/2014	Tom Bender
IND74	20141219-5176(30000530)	12/19/2014	Cynthia Care

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND75	20141219-5259(30001677)	12/19/2014	Multiple signatures, see list of commenters for IND75
IND76	20141222-0046(30015002)	12/22/2014	Laura Dorbuck
IND77	20141222-0076(30011454)	12/22/2014	Joseph Patrick Quinn
IND78	20141222-5050(30006275)	12/22/2014	Anonymous
IND79	20141224-0042(30026205)	12/24/2014	Jennina Crae
IND80	20141224-5005(30015558)	12/23/2014	Tim Ryan
IND81	20141229-5000(30017831)	12/26/2014	Tim Ryan
IND82	20141229-5007(30017845)	12/28/2014	Sarah Shmigelsky
IND83	20141229-5008(30017847)	12/28/2014	Jim Britton
IND84	20141229-5009(30017849)	12/28/2014	Ervin and Mitzi Sulffridge
IND85	20141230-0036(30027105)	12/30/2014	Kay Kendall
IND86	20141230-5001(30020265)	12/30/2014	Ryan Navickas
IND87	20141230-5062(30021098)	12/30/2014	John Stadter
IND88	20141230-5079(30021206)	12/30/2014	Paul Ancell
IND89	20141231-5001(30022511)	12/30/2014	Janet levins
IND90	20150102-5005(30026350)	1/1/2015	J Kreuzer
IND91	20150102-5006(30026352)	1/1/2015	John & Arlene Stiff
IND92	20150102-5008(30026356)	1/1/2015	Gerald Notch
IND93	20150102-5010(30026360)	1/1/2015	Mary S Neuendorf
IND94	20150105-5007(30030596)	1/3/2015	Frances Rominski
IND95	20150105-5008(30030598)	1/3/2015	Gail Roudebush
IND96	20150106-5005(30034436)	1/5/2015	John Dailey
IND97	20150106-5119(30035635)	1/6/2015	Terry Brown
IND98	20150107-5015(30036813)	1/7/2015	Tim Ryan
IND99	20150107-0009(30040381)	1/7/2015	Darlene Seffani
IND100	20150107-0014(30040691)	1/7/2015	Jere Rosemeyer
IND102	20150112-5044(30048093)	1/12/2015	Emmalyn Garrett
IND103	20150112-5036(30048077)	1/12/2015	Mary Curtis
IND104	20150112-5026(30048057)	1/11/2015	Karol Strane
IND105	20150112-5021(30048047)	1/10/2015	Tom Hall
IND106	20150113-5081(30054027)	1/13/2015	Tim Latendresse
IND107	20150114-5038(30055827)	1/14/2015	Jerry Havens, University of Arkansas; James Venart, University of New Brunswick
IND108	20150112-0058(30060030)	1/12/2015	V.N. Syverson
IND109	20150112-0056(30060087)	1/12/2015	James S. Hutchinson
IND110	20150112-0057(30060094)	1/12/2015	Cynthia D. Lord
IND111	20150115-0013(30064973)	1/15/2015	Gary Woodring
IND112	20150115-5005(30060492)	1/15/2015	Tim Ryan
IND113	20150116-0018(30073087)	1/16/2015	NA
IND114	20150116-0019(30073090)	1/16/2015	Janet Ryall
IND115	20150120-5201(30074656)	1/20/2015	Curtis and Melissa Pallin
IND116	20150120-5091(30073551)	1/20/2015	Alice Goodman
IND117	20150120-5090(30073549)	1/20/2015	Craig Stillwell

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND118	20150120-5062(30073493)	1/20/2015	Cindy Boersma
IND119	20150120-5014(30073397)	1/20/2015	Dee Perez
IND120	20150121-5097(30083969)	1/21/2015	Debbie Kappel
IND121	20150122-0031(30088692)	1/22/2015	Katy Mallams
IND122	20150123-5190(30092100)	1/23/2015	Bill Walsh
IND123	20150126-5047(30092456)	1/25/2015	Julia Sommer
IND124	20150126-5067(30092496)	1/25/2015	Karol Strane
IND125	20150126-5069(30092500)	1/26/2015	Tom Martin
IND126	20150120-0136(30094851)	1/20/2015	Evalyn Lemon
IND127	20150120-0140(30094856)	1/20/2015	Richard Turner
IND128	20150126-0099(30096297)	1/26/2015	Larry Thompson
IND129	20150126-0100(30096351)	1/26/2015	Charlotte Hennessy
IND130	20150127-5012(30096516)	1/26/2015	Mark Sheldon, Phil Hall, Owen Schmidt
IND131	20150127-5020(30096915)	1/27/2015	Paul Watte
IND132	20150127-0052(30100676)	1/27/2015	Nora Kelly Barker
IND133	20150120-0142(30094859)	1/20/2015	Karen Cutler
IND134	20150127-5229(30100786)	1/27/2015	Mike Kelley
IND135	20150128-0031(30104992)	1/28/2015	K.B. Seich
IND136	20150128-0032(30104997)	1/28/2015	Frank A. Harvey
IND137	20150129-5011(30105449)	1/28/2015	Stacey McLaughlin
IND138	20150129-5019(30105477)	1/28/2015	Jean Stalcup
IND139	20150202-5003(30113782)	1/30/2015	Anne Steine
IND140	20150202-5007(30113790)	1/31/2015	Kaseja Wilder
IND141	20150202-5015(30113806)	1/31/2015	Linda Fuller
IND142	20150202-5029(30113833)	2/1/2015	Marguerite
IND143	20150202-5031(30113838)	2/1/2015	Jill Whelchel
IND144	20150202-5086(30114043)	1/30/2015	Jean Stalcup
IND145	20150202-5139(30117461)	2/2/2015	Kyle Latta
IND146	20150202-5141(30117934)	2/2/2015	Tim Huntley
IND147	20150202-5143(30117935)	2/2/2015	Kyle Latta
IND148	20150202-5142(30117933)	2/2/2015	Tim Huntley
IND149	20150202-5144(30117937)	2/2/2015	Tim Huntley
IND150	20150202-5207(30118667)	2/2/2015	Jake Sweet
IND151	20150211-5200(30157396)	2/11/2015	David McAlaster
IND152	20150202-5259(30119212)	2/2/2015	Rishia Mitchell
IND153	20150202-5267(30119165)	2/2/2015	Rishia Mitchell
IND154	20150202-5270(30119179)	2/2/2015	Kimberly Payne
IND155	20150202-5271(30119182)	2/2/2015	Kimberly Payne
IND156	20150203-5003(30119361)	2/2/2015	Archina and Jim Davenport
IND157	20150202-0096(30119297)	2/2/2015	Randy Turner and Sandra Medina
IND158	20150202-0097(30119296)	2/2/2015	Kris Bennett
IND159	20150203-5009(30119373)	2/2/2015	Elaine Fischer
IND160	20150203-5012(30119379)	2/2/2015	Michael W Evans
IND161	20150203-5013(30119381)	2/3/2015	William Toner

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND162	20150203-5015(30119385)	2/3/2015	Jim Warzala
IND163	20150203-5017(30119389)	2/3/2015	Zechariah
IND164	20150203-5058(30119827)	2/3/2015	Kian Daniel
IND165	20150203-5071(30121366)	2/3/2015	Laura Herndon
IND166	20150203-0012(30122198)	2/3/2015	Susan Bizeau
IND167	20150203-0031(30124028)	2/3/2015	Barbara Gurschke
IND168	20150203-0033(30124318)	2/3/2015	Pamela Fitzpatrick
IND169	20150203-0032(30124382)	2/3/2015	M.R. Buddenhagen
IND170	20150204-5001(30124507)	2/3/2015	M. Lee Zucker
IND171	20150204-5003(30124511)	2/3/2015	Martha Clemons
IND172	20150204-5004(30124513)	2/3/2015	Tracie L Skinner
IND173	20150204-5005(30124515)	2/3/2015	Tracie L Skinner
IND174	20150204-5011(30124527)	2/4/2015	Barbara Mendelsohn
IND175	20150204-5021(30124678)	2/3/2015	Bob Barker
IND176	20150204-5122(30129867)	2/4/2015	Nicholas Nelson
IND177	20150204-5158(30130248)	2/4/2015	John Knutson
IND178	20150204-0016(30130153)	2/4/2015	Susan Applegate
IND179	20150204-5152(30130187)	2/4/2015	Ron Kutch
IND180	20150204-5159(30130250)	2/4/2015	Ron Kutch
IND181	20150205-5000(30130252)	2/4/2015	Kevin Carr
IND182	20150205-5001(30130282)	2/4/2015	Barbara Butler
IND183	20150205-5003(30130289)	2/4/2015	Leslie Burpo
IND184	20150106-0038(30036740)	1/2/2015	Multiple Commenters
IND185	20150106-0040(30036737)	1/5/2015	Multiple Commenters
IND186	20150106-0041(30036730)	1/5/2015	Multiple Commenters
IND187	20150106-0039(30036734)	1/5/2015	Multiple Commenters
IND188	20150106-0043(30035230)	1/5/2015	Multiple Commenters
IND189	20150205-5009(30130304)	2/4/2015	Kelly O'Hanley
IND190	20150205-5064(30133225)	2/5/2015	Michael Shott
IND191	20150211-5262(30158464)	2/11/2015	Sean Watts
IND192	20150205-5066(30133232)	2/5/2015	Michael Shott
IND193	20150205-5141(30134565)	2/5/2015	Christine Landucci
IND194	20150205-5154(30134770)	2/5/2015	Doug Viner
IND195	20150205-5179(30135166)	2/5/2015	Chris Peach
IND196	20150205-5181(30135794)	2/5/2015	Jim L Tucker
IND197	20150205-5182(30135838)	2/5/2015	Jim L Tucker
IND198	20150205-5184(30136412)	2/5/2015	Michael J McCumiskey
IND199	20150205-5185(30136415)	2/5/2015	Michael J McCumiskey
IND200	20150206-5011(30136476)	2/5/2015	Beth Gipson
IND201	20150206-5002(30136477)	2/5/2015	Beth Gipson
IND202	20150206-5003(30136494)	2/5/2015	Angela van Patten
IND203	20150206-5008(30136505)	2/5/2015	Mathew Goergen
IND204	20150206-5013(30136515)	2/6/2015	Carol N Doty

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND205	20150206-5040(30136699)	2/3/2015	Jerry Havens, University of Arkansas, James Venart, University of New Brunswick
IND206	20150206-5051(30138584)	2/6/2015	Ed Cooley
IND207	20150206-5015(30139131)	2/6/2015	Rudy
IND208	20150211-5231(30158209)	2/11/2015	Janis Lloyd
IND209	20150206-5110(30139184)	2/6/2015	Denny S Emerson
IND210	20150206-5112(30139209)	2/6/2015	Denny S Emerson
IND211	20150206-5123(30139258)	2/6/2015	Ron K Strauser
IND212	20150206-5124(30139260)	2/6/2015	Ron K Strauser
IND213	20150206-5126(30139324)	2/6/2015	Reitha Jacobs
IND214	20150206-0007(30139642)	2/6/2015	Gail Pearlman
IND215	20150206-0010(30139688)	2/6/2015	Kate Geary
IND216	20150206-0011(30139678)	2/6/2015	Sophia Bogle
IND217	20150206-0009(30139680)	2/6/2015	Polly Elliott
IND218	20150206-5164(30140299)	2/6/2015	Theresa Haga
IND219	20150206-5165(30140673)	2/6/2015	Theresa Haga
IND220	20150206-5182(30140734)	2/6/2015	Maryann Rohrer
IND221	20150206-5181(30140713)	2/6/2015	Maryann Rohrer
IND222	20150206-5175(30140704)	2/6/2015	Maryann Rohrer
IND223	20150206-0008(30140907)	2/6/2015	Wendy Eppinger
IND224	20150206-5196(30141586)	2/6/2015	Dianne Ensign
IND225	20150209-5005(30142136)	2/7/2015	Juli Hosking
IND226	20150209-5006(30142139)	2/7/2015	James S. Fereday
IND227	20150212-5000(30158524)	2/11/2015	Lisa Childs
IND228	20150209-5008(30142142)	2/7/2015	Sheryl Kaplan
IND229	20150209-5012(30142150)	2/7/2015	Pamela Plummer
IND230	20150212-5001(30158531)	2/11/2015	Timm A Slater
IND231	20150209-5015(30142156)	2/7/2015	Chistine Landucci
IND232	20150209-5016(30142158)	2/7/2015	Richard F. Knablin
IND233	20150209-5019(30142164)	2/7/2015	Dick Goergen
IND234	20150209-5022(30142170)	2/7/2015	Richard Todd Goergen
IND235	20150209-5023(30142172)	2/7/2015	Beth Goergen
IND236	20150209-5032(30142190)	2/8/2015	Melinda Grant
IND237	20150209-5035(30142196)	2/8/2015	Harriet Hodgkin
IND238	20150209-5036(30142198)	2/8/2015	Helen Lottridge
IND239	20150209-5043(30142198)	2/9/2015	Ann McMann
IND240	20150209-5044(30142214)	2/9/2015	Annette Bridges
IND241	20150209-5061(30142365)	2/6/2015	Kristine Cooper Cates
IND242	2015-50680209(30142387)	2/8/2015	Janet Stoffel
IND243	20150212-5011(30158606)	2/11/2015	Betty McRoberts
IND244	20150209-5073(30142396)	2/8/2015	Joyce and Paul Chapman
IND245	20150209-5075(30142401)	2/8/2015	Dr. Jan Hodder
IND246	20150212-5013(30158610)	2/12/2015	Corine Whittemore
IND247	20150209-5085(30142911)	2/9/2015	Michael Graybill

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND248	20150205-5215(30136465)	2/5/2015	Marilyn Bailey
IND249	20150209-5094(30143974)	2/9/2015	Kerry Holman
IND250	20150209-5139(30146557)	2/9/2015	Margaret Ryan
IND251	20150209-5167(30147507)	2/9/2015	Christine Frazer
IND252	20150209-0076(30147792)	2/9/2015	Peg Martin
IND253	20150209-0077(30147795)	2/9/2015	Katherine E.E. Hunt
IND254	20150209-5180(30147654)	2/9/2015	Edgar E. Grant
IND255	20150209-5192(30147934)	2/9/2015	Maryann Rohrer
IND256	20150209-0078(30148096)	2/9/2015	Elizabeth P. Roseburg
IND257	20150209-0084(30148121)	2/9/2015	Debra Sheetz
IND258	20150209-5208(30148108)	2/9/2015	Vince Lang
IND259	20150209-0086(30148366)	2/9/2015	John Clarke
IND260	20150217-5016(30168061)	2/13/2015	Gary Young
IND261	20150209-0088(30148358)	2/9/2015	Roxann Prazniak
IND262	20150209-0063(30148388)	2/9/2015	Douglas L Roberts
IND263	20150209-0067(30148395)	2/9/2015	Eilizabeth Snyder
IND264	20150211-5230(30158196)	2/11/2015	Nolan D. Lloyd
IND265	20150210-5002(30148378)	2/10/2015	Randy W. Kephart
IND266	20150209-0061(30148390)	2/9/2015	Jeff Kassman
IND267	20150209-0062(30148349)	2/9/2015	Eugene Scott
IND268	20150210-5005(30148404)	2/10/2015	Patricia Ann Watterson
IND269	20150210-5006(30148406)	2/9/2015	Randy W. Kephart
IND270	20150210-5007(30148408)	2/9/2015	Mickael
IND271	20150210-5012(30148418)	2/9/2015	Jane Mara
IND272	20150210-5036(30149086)	2/9/2015	Marcella and Alan Laudani
IND273	20150210-5201(30153534)	2/10/2015	Diane M Crawford
IND274	20150209-0016(30153586)	2/9/2015	John Allcott, MD
IND275	20150209-0017(30153588)	2/9/2015	Joanna Castro
IND276	20150210-5216(30153610)	2/10/2015	Maya Watts
IND277	20150210-5217(30153611)	2/10/2015	Sharon Rickman
IND278	20150210-5218(30153614)	2/10/2015	Dawn R Granger
IND279	20150209-0018(30153627)	2/9/2015	Dana P. Stone, Roshanna Stone
IND280	20150209-0019(30153629)	2/9/2015	Deborah Leff
IND281	20150209-0026(30153635)	2/9/2015	Tara Hanson
IND282	20150209-0027(30153636)	2/9/2015	Anne Stein
IND283	20150209-0030(30153643)	2/9/2015	Trish Haas
IND284	20150211-5005(30153663)	2/10/2015	Dee Packard
IND285	20150211-5009(30153671)	2/11/2015	Chris Andreea
IND286	20150211-5007(30153667)	2/11/2015	Sandra Duncan
IND287	20150211-5012(30153677)	2/11/2015	Renee Cote
IND288	20150209-0037(30154788)	2/9/2015	Sarita Lief
IND289	20150210-0025(30154815)	2/10/2015	Carol Sanders
IND290	20150210-0041(30151235)	2/10/2015	Robert O. Clark
IND291	20150211-5110(30155642)	2/11/2015	Gary Moore

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND292	20150211-5114(30155651)	2/11/2015	Zack Culver
IND293	20150211-5118(30155762)	2/11/2015	Jack
IND294	20150212-5004(30158592)	2/11/2015	Jen Velinty
IND295	20150212-5010(30158604)	2/11/2015	Brenda Schweitzer
IND296	20150212-5026(30158663)	2/11/2015	Ron Foord
IND297	20150212-5027(30158666)	2/11/2015	Nova and Ellen Lovell
IND298	20150212-5033(30158743)	2/12/2015	Scott McKay
IND299	20150209-0105(30161464)	2/9/2015	Paul Barker
IND300	20150209-0106(30161460)	2/9/2015	Robert and Jean Pollock
IND301	20150211-0033(30161411)	2/11/2015	[no name provided]
IND302	20150211-0034(30161445)	2/11/2015	Susan Delles
IND303	20150212-5090(30161404)	2/12/2015	Thomas C. Burdett
IND304	20150212-5091(30161440)	2/11/2015	Amy Levin
IND305	20150212-5094(30161467)	2/12/2015	Augustin A Moses
IND306	20150212-5095(30161478)	2/12/2015	Don Canavan
IND307	20150210-5106(30161649)	2/12/2015	Maryann Rohrer
IND308	20150211-0031(30162526)	2/11/2015	Bruce Bauer
IND309	20150211-0015(30162530)	2/11/2015	Howard Paine
IND310	20150212-5137(30162742)	2/12/2015	Johanna Harman
IND311	20150211-0020(30163221)	2/11/2015	Connie J. Harris
IND312	20150211-0021(30163230)	2/11/2015	Hayward Webster
IND313	20150211-0023(30163232)	2/11/2015	Ms. Lorna Hayden, Douglas County Democratic Party
IND314	20150212-5185(30163822)	2/12/2015	Kyle Ward
IND315	20150212-5193(30163849)	2/12/2015	Barbara Gimlin
IND316	20150213-5000(30163879)	2/12/2015	Kelly Flenniken
IND317	20150213-5002(30163882)	2/12/2015	Duane Doyle, Jr.
IND318	20150213-5003(30163884)	2/12/2015	William Rohrer
IND319	20150213-5004(30163886)	2/12/2015	Susan Bizeau
IND320	20150213-5005(30163888)	2/12/2015	Janice C. Williams
IND321	20150213-5007(30163892)	2/12/2015	Michele R Hampton
IND322	20150213-5008(30163894)	2/12/2015	Michele R Hampton
IND323	20150213-5009(30163896)	2/12/2015	Bill Walsh
IND324	20150213-5016(30163910)	2/12/2015	Beverly Segner
IND325	20150213-5018(30163914)	2/13/2015	Diane and David Bilderback
IND326	20150213-5017(30163912)	2/13/2015	Scott Swindells
IND327	20150213-5019(30163916)	2/13/2015	Pamela B Ordway
IND328	20150213-5020(30163918)	2/13/2015	Pamela B Ordway
IND329	20150213-5021(30163920)	2/13/2015	Alexis S Reed
IND330	20150213-5023(30163924)	2/13/2015	Paula Yablonski
IND331	20150213-5024(30163926)	2/13/2015	Maria Farinacci
IND332	20150213-5022(30163922)	2/13/2015	Neal Hadley
IND333	20150213-5039(30163974)	2/13/2015	Stacy McLaughlin
IND334	20150213-5042(30163976)	2/13/2015	Bill Gow

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND335	20150213-5045(30163986)	2/12/2015	Shirley Weathers, PhD.
IND336	20150213-5076(30165478)	2/13/2015	Jeanie Jenks
IND337	20150213-5082(30165700)	2/13/2015	Mary Ann Hansen
IND338	20150213-5086(30165709)	2/13/2015	Beverly Segner
IND339	20150213-5091(30166098)	2/13/2015	Torrey Byles
IND340	20150213-5116(30166316)	2/13/2015	John Schofield
IND341	20150213-5117(30166375)	2/13/2015	Mark Robinowitz
IND342	20150213-5121(30166386)	2/13/2015	Mark D. Burnap
IND343	20150213-5125(30166400)	2/13/2015	Diane Shockey
IND344	20150213-5127(30166406)	2/13/2015	Bonnie Joyce
IND345	20150213-5128(30166411)	2/13/2015	Richard T Goergen
IND346	20150213-5135(30166425)	2/13/2015	Curtis Pallin
IND347	20150217-5025(30168079)	2/13/2015	Elsan Zimmerly
IND348	20150213-5139(30166435)	2/13/2015	R. Scott Jerger, Field Jerger LLP
IND349	20150213-5144(30166465)	2/13/2015	Multiple Commenters
IND350	20150213-5151(30166488)	2/13/2015	Lynn Hoot-Schofield
IND351	20150213-5156(30166497)	2/13/2015	Jennifer Van Datta
IND352	20150213-0010(30167657)	2/13/2015	Julie Correla
IND353	20150213-0012(30167452)	2/13/2015	Richard Knablin
IND354	20150213-5163(30166753)	2/13/2015	multiple copies of form letter with different signatures
IND355	20150213-5167(30166924)	2/13/2015	Paul M.Washburn
IND356	20150213-5170(30167070)	2/13/2015	David Schneider
IND357	20150213-5176(30167101)	2/13/2015	Vanya Sloan
IND358	20150213-5183(30167113)	2/13/2015	Sarah Anderson
IND359	20150213-5185(30167129)	2/13/2015	Paul M.Washburn
IND360	20150213-5197(30167370)	2/13/2015	Jan Waitt
IND361	20150213-5207(30167396)	2/13/2015	Rick E Skinner
IND362	20150213-5216(30167415)	2/13/2015	Robyn Janssen
IND363	20150213-5218(30167433)	2/13/2015	Annice O Black
IND364	20150213-5241(30167535)	2/13/2015	Natalie DeNault, (MoveOn.org)
IND365	20150213-5248(30167681)	2/13/2015	Annice O Black
IND366	20150213-5257(30167807)	2/13/2015	Olena Black
IND367	20150213-5255(30167787)	2/13/2015	Ron Steffens
IND368	20150213-5262(30167889)	2/13/2015	Jenny Council
IND369	20150213-0034(30168038)	2/13/2015	Renee Cote
IND370	20150213-0035(30168041)	2/13/2015	Marianne Moskowitz
IND371	20150213-5264(30167912)	2/13/2015	Wim de Vriend
IND372	20150213-5266(30167917)	2/13/2015	Olena Black
IND373	20150213-5275(30167939)	2/13/2015	Johanna Harman
IND374	20150213-5303(30167991)	2/13/2015	Susan Aufderheide
IND375	20150213-5291(30167982)	2/13/2015	Jeff Harms
IND376	20150213-5316(30168010)	2/13/2015	N/A
IND377	20150213-5328(30168019)	2/13/2015	Erich Reeder

Document ID	Accession # (eLibrary)	Filing Date	Commenter (list agency name if applicable)
IND378	20150213-5329(30168020)	2/13/2015	Multiple Commenters
IND379	20150217-5149(30168440)	2/13/2015	Julian Bell MD
IND380	20150217-5001(30168026)	2/13/2015	Bruce Cambell
IND381	20150217-5004(30168029)	2/13/2015	Richard Harrington
IND382	20150217-5009(30168047)	2/13/2015	Tonia Moro
IND383	20150217-5011(30168051)	2/13/2015	Kathy Ryan
IND384	20150217-5010(30168050)	2/13/2015	Mary Jo Hoftiezer
IND385	20150217-5012(30168053)	2/13/2015	Joseph W. Fox
IND386	20150217-5013(30168055)	2/13/2015	Dr. Theodora Tsongas
IND387	20150217-5014(30168057)	2/13/2015	Jade Severson
IND388	20150217-5020(30168069)	2/13/2015	Jason Wellman
IND389	20150217-5021(30168071)	2/13/2015	Erin O'Kelly
IND390	20150217-5023(30168075)	2/13/2015	Anna Fay Putman
IND391	20150217-5024(30168077)	2/13/2015	Henry W. Newhouse
IND392	20150217-5156(30168551)	2/13/2015	Karen Solomon
IND393	20150217-5168(30168564)	2/13/2015	Dave and Emily McGriff
IND394	20150217-5170(30168601)	2/13/2015	John Muenchrath
Local Agencies and Governments			
LA1	20141229-0013(30022569)	12/29/2014	Theresa Cook, MAS, AAE, Executive Director, Southwest Oregon Regional Airport
Native American Tribes			
NA1	20150211-5015(30153700)	2/10/2015	Daniel Courtney, Cow Creek Band of Umpqua Tribe of Indians
NA2	20150217-5143(30168419)	2/13/2015	Alexis Barry, Tribal Administrator Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians
Public Meeting			
PM1	20141224-4003(30022540)	12/24/2014	Multiple Commenters
PM2	20150113-4006(30055308)	1/13/2015	Multiple Commenters
PM3	20150113-4002(30054777)	1/13/2015	Multiple Commenters
PM4	20150113-4003(30055301)	1/13/2015	Multiple Commenters
PM5	20150113-4005(30055297)	1/13/2015	Multiple Commenters
PM6	20150113-4007(30055304)	1/13/2015	Multiple Commenters
State Agency or Elected Official			
SA1	20150213-5038(30163972)	2/12/2015	Richard Whitman (collective comments from the State of Oregon)

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

AP1



Pam Barnes
Project Manager - Business Development
Phone: (801) 584-6857
FAX: (801) 584-7764

Williams Pacific Connector
Gas Operator, LLC
P.O. Box 58900
Salt Lake City, UT 84158-0900

APPLICANTS

AP1 Pacific Connector Gas Pipeline, Pam Barnes

February 13, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, D.C. 20426

Re: Pacific Connector Gas Pipeline, LP
Comments to DEIS
Docket No. CP13-492

Dear Ms. Bose:

Williams Pacific Connector Gas Operator LLC ("Williams Pacific Connector"), acting as the Engineering, Procurement and Construction Management contractor, on behalf of Pacific Connector Gas Pipeline LP ("Pacific Connector"), submits its comments to the draft Environmental Impact Statement for the Jordan Cove Energy Project and Pacific Connector Gas Pipeline Project issued on November 7, 2014.

Respectfully submitted,

/s/ Pam Barnes

Pam Barnes

Attachment

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment	
Comment No.	DEIS Section & Page No.	DEIS Language		
1	General Comment 1.4.2	Use of terms: 'compensatory mitigation plan', 'measures', 'plans', 'actions', 'design features', 'project requirements', used in conjunction with discussion of BLM/FWS offsite mitigation.	Use of the noted words and phrases are inconsistent throughout the EIS. For BLM/FWS offsite mitigation, 'Mitigation projects' is a more accurate term. Distinction is required since these are specific to BLM/FWS lands and are offsite projects.	AP-1
2	General Comment 2.1.3	Use of terms: 'right-of-way', 'corridor', 'route', 'pipeline project'.	These words and phrases are not used consistently throughout the EIS. Pacific Connector requests each term be defined and used consistently.	AP-2
3	General Comment 2.1.3.4	Use of terms: 'workspace', 'clearing limits', 'project area', 'corridor', 'right-of-way'.	These words and phrases are not used consistently throughout the EIS. Pacific Connector requests each term be defined and used consistently. Possible definitions: 50-Foot Permanent Easement (50-Feet) - permanent area conveyed by easement, including the rights, covenants, and conditions of the proposed facilities. Actual fee ownership is retained by the landowner. 30-Foot Maintained Strip (30-Feet) - area within the 50-foot permanent easement that is maintained in a vegetative/herbaceous state (shrubs less than 6 feet and trees less than 15 feet). 10-Foot Maintained Strip (10-Feet) - area within the 30-foot maintained strip that is maintained in herbaceous state (no shrubs or trees; minimal ground cover to allow for walk and corrosion surveys).	AP-3
4	General Comment	Use of terms for 10-foot, 30-foot, and 50-foot (maintenance corridor, inspection corridor, permanent easement, right-of-way, cleared corridor).		AP-4
5	General Comment	Use of EI, FERC EI (maybe FERC Monitor), agency representative.	Suggestion to search on the words for consistency throughout the EIS.	AP-5
6	General Comment	Use of dam and pump crossing method and fluming crossing method.	Suggestion to search on 'dam and pump' and add 'fluming', where it is missing.	AP-6
7	General Comment	NHPA Section 106 code "16 U.S.C. 470 part 36 CFR 900"	Effective December 19, 2014 - NHPA has been moved from Title 16 to Title 54 of U.S. Code. The correct location of Section 106 is now "54 U.S.C. § 306105" and NHPA in general can be found at "54 U.S.C. § 306105". Please update the document to reflect this change.	AP-7
8	Executive Summary ES-8	After pipeline installation, wetlands would be restored; however, about 5.2 acres of palustrine forested wetlands would be converted to herbaceous wetlands.	3.2.15. The text for the wetlands conversion impacts for the project will affect a total of 1.48 acres of palustrine scrub-shrub wetlands.	AP-8
9	Executive Summary ES-13	"and Pacific Connector should document meetings and agreements with the Cow Creek Band of Umpqua Tribe of Indians and the Klamath Tribes"	Pacific Connector is currently in active discussions with five affected Tribes (The Coquille Indian Tribe, the Confederated Coos Tribes, the Cow Creek Tribe, the Grand Ronde Tribes, and the Klamath Tribes).	AP-9

AP1 Continued, page 2 of 48

- AP1-1 Comment noted. Text is written as appropriate for specific resources and discussions. No change made.
- AP1-2 Comment noted. Text is written as appropriate for specific resources and discussions. No change made.
- AP1-3 Comment noted. Text is written as appropriate for specific resources and discussions. No change made.
- AP1-4 Comment noted. Text is written as appropriate for specific resources and discussions. No change made.
- AP1-5 Comment noted. No change made.
- AP1-6 Text revised
- AP1-7 Text revised
- AP1-8 Based on FERC's analysis, approximately 5.2 acres of forested wetlands would be affected in the long-term (as these are forested wetlands and the restoration of these habitats would be long term; see Table 4.4.3.2-1 of the EIS). As a result, the extent of long-term impacts to forested wetlands is beyond the 1.48 acres of wetlands in the permanent ROW (as listed in the applicant's comments).
- AP1-9 Comment noted.

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment	
Comment No.	DEIS Section & Page No.	DEIS Language		
10	1.1	The pipeline would be designed to transport approximately 1.06 Bcf/d of gas from interconnections with the existing Ruby Pipeline LLC (Ruby) and Gas Transmission Northwest LLC (GTN) systems near Malin, Oregon.	Appears these numbers should match.	AP-10
	1.1.2	a 232-mile-long, 13.36-inch-diameter welded steel underground pipeline, a 1.1-mile-long, 13.36-inch-diameter welded steel overhead pipeline, and interconnections with existing supply pipelines near Malin.		
	1-5		Please replace "Design Features or Project Requirements" with "mitigation projects" and delete footnote 19.	AP-11
11	1.4.2 1-16	Both the BLM and Forest Service have identified suites of "Design Features" or "Project Requirements" 19	"Design Features" or "Project Requirements" are generally applicant-proposed measures to reduce or avoid project effects during construction. The projects described in this paragraph are the mitigation projects analyzed in Appendix F and which are also included as an attachment to the CMP.	AP-12
12	1.4.2 1-17	Although these actions (which are described in the BLM and Forest Service plans; see chapter 2) are specific in terms of activity and location, this EIS addresses these in a programmatic fashion. Many of these actions may require additional analyses and surveys before final decisions can be made by the federal land managing agencies. The BLM and Forest Service anticipate that this EIS would provide the basis for making subsequent site-specific NEPA analyses. In accordance with the CEQ regulations at 40 CFR 1508.28(b), the BLM and Forest Service will conduct supplemental environmental analysis and consultation efforts with the relevant state and federal agencies and local governments, prior to authorizing future site-specific actions related to the design features or requirements for the Project.	Please replace "design features or requirements" with "mitigation projects."	
	1.5.1.8 1-37	Pacific Connector would submit its air quality permit application later in 2014.	Pacific Connector requests that the EIS clearly state that the supplemental analysis for mitigation projects will not preclude FERC or BLM/Forest Service from issuing authorizations and the Project moving forward with construction concurrently with the supplemental NEPA processes.	AP-13
13	Table 2.1.4-2 2-57		On page 4-386 of the FERC DEIS states the proposed compressor station would be in the Klamath Falls PM2.5 nonattainment area. This is an error. RFR identifies that the station is approximately 14 miles southeast of the closest point of the nonattainment area.	AP-14
14	Table 2.1.7-1 2-75		Attachment A provides a comparison of this table with the various tables in Appendix F (see notes throughout the attached pdf).	AP-15
15			Add: Estuarine Wetland Mitigation Plan - Attachment 7 of BA	
16	2.4.2.1 2-105	In forested areas, timber would be cut and cleared from the right-of-way (ROW) using a timber harvest plan that meets the requirements of the landowner requirements including time-of-year restrictions.	Through consultation with FWS, BLM, and Forest Service, as well as timber clearing and construction contractors, Pacific Connector has developed seasonal timing restrictions for timber felling, logging, clearing and construction activities to minimize and avoid potential effects to the various bird species in the Project area. These seasonal timing restrictions are included in Attachment B, and should be used to update/review the DEIS where appropriate for consistency when describing seasonal timing restrictions for the Project.	AP-16
17	Table 3.4.2.6-1 3-40	Row "Number of previously identified cultural resources along route. 3 0"	Proposed route change does not reroute around any cultural resources. Please change 0 in column "Proposed Route" to 3.	AP-17

2

AP1 Continued, page 3 of 48

- AP1-10 Text has been corrected.
- AP1-11 The terms "Design Features" and "project Requirements" are used by the BLM and Forest Service to refer to on-site measures that are taken to avoid or reduce project effects. These on-site measures are contained in the Plans of Development. These terms and are not referring the off-site mitigation actions that the BLM and Forest Service have proposed as part of their compensatory mitigation plans that are included in Appendix F. The words Mitigation or Mitigation Actions are commonly used to refer to the off-site mitigation actions that are in the BLM and Forest Service compensatory mitigation plans. The text in the FEIS has been amended to clarify this.
- AP1-12 The text in the FEIS has been edited to reflect this section is referring to the off-site mitigation actions in the compensatory mitigation plans proposed by the BLM and FS.
- AP1-13 Text has been corrected.
- AP1-14 This will be resolved in the FEIS.
- AP1-15 Change made as requested.
- AP1-16 Information has been added.
- AP1-17 Table 3.4.2.6-1 on page 3-40 compares the Northern Spotted Owl Nest Patch Alternative Routes. As shown in Figure 3.4-7, the Proposed route and the alternative route are spaced widely apart. We will check on the number of sites; however, we do not see how both routes could cross the same 3 known cultural sites. Also, note the requirement in section 4.11.3.2 that Pacific Connector produce a detailed site-specific avoidance and protection plan.

Pacific Connector Gas Pipeline - Comments on DEIS			DEIS Language		Pacific Connector Comment	
Comment No.	DEIS Section & Page No.		DEIS Language		Pacific Connector Comment	
18	Table 3.4.2.8-1 3-47		Row: Number of newly identified cultural resources along route. Column: Proposed Route "1", site "2", isolated find."		This is incorrect. Revise to read "3 - sites, 1 - isolated find"	
19	3.4.4.1 3-67		Prior to the end of the comment period on this EIS, Pacific Connector should file with the Secretary documentation that it has realigned the pipeline route to adopt the minor route variations recommended by the BLM between MPs 119.5 and 119.8, at MP 126.0, at MP 131.5, and between MPs 183.9 and 187.4.		Remove and between MPs 183.9 and 187.4 to match recommendations in Chapter 5.	
20	4.1.2.3 4-20		Pacific Connector's land representatives are also not aware of any planned developments based on their discussions with individual landowners.		Pacific Connector is aware of the planned "Johnson" subdivision (Planning Phase). Pacific Connector worked with the subdivision landowner and re-located (MPs 130.15 to 132.28) to minimize the effect to subdivision lots. The road was defined in Pacific Connector's Subdivision Map Sheet 19, 2015, at Section 43, Table 2, Index Map Sheet 29, Detail Map Sheet 81, and Attachment 5).	
21	4.1.3.3 4-53		This change would potentially affect an estimated total of three acres of effective shading vegetation at approximately four perennial stream crossings in the East Fork of Cow Creek subwatershed from MPs 109 to 110 in Sections 16 and 21, T.32S., R.2W., W.M., Oregon. This would occur on approximately five crossings of perennial streams and would affect approximately 3 acres of effective shade where the Pacific Connector pipeline crosses perennial streams.		Appears these numbers should match.	
22	4.1.3.4 4-58		Reallocation of O&C or Coos Bay Wagon Road Matrix lands to LSR potentially affects the sustained timber yield objective for the O&C and Coos Bay Wagon Road lands. In order to ensure that this objective is met, the BLM is requiring the applicant to acquire 450 acres of comparable lands to be transferred to the BLM to be managed as Matrix lands that contribute to the sustained timber yield objectives of the O&C and Coos Bay Wagon Road lands.		Pacific Connector believes that the BLM may be oversteering the "loss" of sustained timber yield lands associated with the reallocation of O&C or Coos Bay Wagon Road matrix lands to LSR. Pacific Connector notes that all of the area within the matrix lands being reallocated are currently not available timber yield. Acreage within the matrix lands that have been identified as "unmapped LSR," Riparian Reserve, or other timber-harvest limiting environmental classification are severely limited for harvest and as such do not represent a loss of potential sustained timber yield objective acres. Pacific Connector requests that the BLM provide a detailed accounting of the acres being reallocated and that the BLM identify the acreage as the basis for obtaining comparable lands for future sustained yields.	
23	4.1.3.4 4-39		Reallocation of O&C or Coos Bay Wagon Road Matrix lands to LSR potentially affects the sustained timber yield objective for the O&C and Coos Bay Wagon Road lands. In order to ensure that this objective is met, the BLM is requiring the applicant to acquire 409 acres of comparable lands to be transferred to BLM management to be managed as Matrix lands that contribute to the sustained timber yield objectives of the O&C and Coos Bay Wagon Road lands.		Pacific Connector is unsure of origin of the 450 acres. It has not been found in the mitigation sections throughout the EIS. See response above.	

3

AP1 Continued, page 4 of 48

- AP1-18 Change made as requested.
- AP1-19 Change made as requested.
- AP1-20 Change made as requested.
- AP1-21 There are four perennial stream crossings in the East Fork of Cow Creek. Hydro-feature C, G, J and K are perennial. Hydro-feature N is a perennial stream that becomes intermittent at the point of crossing because of a permanent upstream diversion. Hydro-feature N is treated as an intermittent stream in this analysis. See Table 2.4.8.1-4 in Appendix J. The number of streams crossed has been corrected in the FEIS.
- AP1-22 The 450 acres is derived from the original proposal of the net amount of matrix acres that would be reallocate to LSR on the Coos Bay District. These acre figures do not include the acres that are unmapped LSR and are part of the timber base. The current proposal in the DEIS discloses that there are 998 acres of matrix land that would be reallocated to mapped LSR 261 on the Coos Bay District. However based on more recent MAMU surveys and the best available information, only 387 (previously 450) of those acres are outside of unmapped LSR. Although these 387 acres also contain some areas that are classified as riparian reserves it would be expected that acquired lands would also contain riparian areas that would be classified as riparian reserves. Once final surveys are completed and the net amount of matrix lands reallocated is determined those acres would then provide a basis for acquiring comparable lands.
- AP1-23 The 409 acres is derived from the net amount of matrix acres that would be reallocated to LSR on the Roseburg District. These acre figures do not include acres of unmapped LSR and are part of the timber base. There are no known occupied sites of MAMU currently on these lands. Although these 409 acres also contain some areas that are classified as riparian reserves it would be expected that acquired lands would also contain riparian areas that would be classified as riparian reserves. Once the final net amount of matrix lands reallocated is determined those acres would then provide a basis for acquiring comparable lands.

Pacific Connector Gas Pipeline - Comments on DEIS		DEIS Language	Pacific Connector Comment
Comment No.	DEIS Section & Page No.		
24	4.1.3.5 4-133 4-134	On private lands, compliance with the CWA is the best evidence of protection of aquatic values. Issuance of permits for the Pacific Connector Pipeline Project under Section 401 of the CWA from the ODEQ and the Forest Service under the Clean Water Act (CWA) will ensure compliance with the CWA. The CWA requires the Pacific Connector Pipeline Project to obtain a CWA permit from the ODEQ and the Forest Service. The BLM and Forest Service require that the applicant secure those permits prior to making any findings related to the ACS.	Pacific Connector agrees that issuance of permits will demonstrate compliance with the CWA. However, Pacific Connector disagrees that BLM and Forest Service must wait for CWA permits to be issued prior to making any findings related to ACS. Under that logic, the Record of Decision (ROD) by BLM and Forest Service would be held in abeyance until the CWA permits are issued. The ROD would be issued in accordance with the CWA. The ROD would be issued in accordance with the ACS consistency can be made by BLM and Forest Service conditionally on the requirement that the project obtain the requisite CWA permits prior to requesting a Notice to Proceed.
25	4.1.3.5 4-133/4	During stream crossings, Pacific Connector will use dam and-pump construction methods on any flowing streams to isolate the crossing construction site from the flowing stream on both the upstream and downstream sides of the crossing.	Pacific Connector will also utilize the flume method for crossing flowing streams.
26	Table 4.1.3.5-25 4-133, 134	MP 131.4 to 131.78	The mileposts are used in multiple locations throughout this table and need to be corrected specific to the Study Cove/Rogue River Watershed. They are the same mileposts used in Table 4.1.3.5-27, which are correct.
27	4.2.2 4-256	Pacific Connector selected the proposed route with input from agencies, stakeholders and managers to avoid areas with high risk of geological hazards.	Please revise to: Pacific Connector's engineers and geologists selected the proposed route with input from agencies, stakeholders and managers/owners to avoid areas with high risk of geological hazards.
28	4.2.2.2 4-262	Pacific Connector proposes to have the pipeline trenches carefully examined during construction by a qualified professional (following State DP technology) in order to minimize the environmental impacts of construction and to install the pipeline below zones of potentiality related to ground rupture.	Pacific Connector proposes to have the pipeline trench carefully examined at locations of quaternary and younger fault crossings by a qualified professional (following State DP technology) in order to minimize the environmental impacts of construction and to install the pipeline below zones of potentiality related to ground rupture.
29	4.2.2.2 4-263	The numerical analysis was used to confirm liquefaction potential rather than used to predict liquefaction induced settlement magnitude which would be accomplished during pipeline design, scheduled for 2014.	In process now and will be completed in 2015.
30	4.2.2.2 4-264	Pacific Connector proposes to cross four river crossings (Coos River, Rogue River, Klamath River, and South Umpqua River) using HDD and DP technology in order to minimize the environmental impacts of construction and to install the pipeline below zones of potentiality related to ground rupture.	Pacific Connector requests that the EIS clarify that DP is only being considered for the South Umpqua River crossing.
31	4.2.2.2 4-264	High liquefaction and/or lateral spreading potential were identified at seven sites (Haynes Inlet, Kentluch Inlet, Villanch Slough, Coos River, Willis Creek, Rogue River, and Klamath Valley/Klamath River) along the pipeline route.	Rogue River is not a high risk site.
32	4.2.2.2 4-264	The primary mitigation measure being considered to address liquefaction risks is ground improvement. Potential ground improvement measures include vibroflotation, stone columns, compaction grouting, and deep dynamic compaction.	Although ground improvement is not excluded as a possible mitigation measure, it is not considered to be a primary mitigation measure alternative.

AP1 Continued, page 5 of 48

AP1-24	Consistency with the ACS is a finding made in the Record of Decision for a project, based on evidence presented in the FEIS. Although the ACS as a specific requirement does not apply on private lands, the Clean Water Act does, and the BLM and Forest Service must consider the cumulative effect of an action when making a finding of consistency with the ACS. That would include the portions of the project on private lands. When issuing a ROD, the Forest Service and BLM must also find that the agency action complies with all applicable laws and regulations. That includes compliance with the Clean Water Act on public lands, as demonstrated by the State of Oregon issuing the necessary permits for the project. Without the necessary permits from the State of Oregon, the Forest Service and BLM would not have sufficient evidence to support a finding of compliance with the Clean Water Act in a ROD.
AP1-25	Text has been revised.
AP1-26	Text has been revised.
AP1-27	The FEIS text has been revised.
AP1-28	The FEIS text has been revised.
AP1-29	Change made as requested.
AP1-30	No change made. The existing DEIS is non-specific regarding which technology would be used at the crossings. The addition of more specific text regarding one of the crossings does not contribute to the intent of the sentence: "to install the pipeline below zones of potentially liquefiable soil".
AP1-31	The text has been revised to only identify the sites where the pipeline is not presently planned to avoid the liquefiable soils.
AP1-32	Change made as requested.

Pacific Connector Gas Pipeline - Comments on DEIS			AP-33	AP-34	AP-35	AP-36	AP-37	AP-38	AP-39
Comment No.	DEIS Section & Page No.	DEIS Language	Pacific Connector Comment						
33	4.2.2.2 4-264	Because the crossing of Coos Bay (Hayes Inlet) would have the greatest potential along the proposed route for liquefaction and lateral spreading in the event of an earthquake, Pacific Connector had a geotechnical consultant perform a site-specific analysis (GeoEngineers 2007a).	This is not applicable to the current route. This study was for the old route through the bay. This paragraph can be deleted. The previous paragraph accurately notes that Hayes Inlet has a high liquefaction and/or lateral spreading potential and the appropriate mitigation options that address liquefaction risks.						
34	4.2.2.2 4-265	The output indicate that a large earthquake (greater than magnitude 6.0) could trigger lateral spreading up to 10 feet near the crest of the dredged channel slope, decreasing to less than 1 foot at a distance of about 300 to 400 feet from the slope crest (GeoEngineers 2007a).	This statement is no longer applicable to current route.						
35	4.2.2.2 4-270	Pacific Connector and its consultants are confident that the methods used (LIDAR interpretation and helicopter-based reconnaissance) were adequate to evaluate the potential hazard posed by these specific landslides.	Methods used should also include selected ground-based reconnaissance						
36	4.2.2.2 4-273	Potential risk was evaluated based on the likelihood of migration, erosion, and/or landslides as determined through evaluations of aerial photographs and GIS data.	Please add: 'through evaluations of aerial photographs, and GIS data, field data collection, and engineering.'						
37	4.3.2 4-306	Information in the Forest Service surveys was supplemented by NRCS State Soil Geographic Database (STATSGO) and Soil Survey Geographic Database (SSURGO) soil classifications (NRCS 2012a).	Information in these surveys was supplemented by NRCS State Soil Geographic Database (STATSGO and SSURGO) soil classifications (NRCS, undated).						
38	4.3.2 4-306	Regional maps from NRCS county soil surveys and the STATSGO data were used to provide descriptions of the soil associations that would be crossed by the proposed pipeline and aboveground facility sites, including storage yards, rock stock piles, permit disposal sites, proposed access roads, and proposed aboveground facilities.	Pacific Connector used STATSGO and SSURGO for all the soil surveys, not just the Forest Service.						
39	4.3.2 4-306	According to the NRCS Land Resource Regions and Major Land Resource Areas (MLRAs) (NRCS 2006b), the pipeline route would cross five MLRAs: • the Sitka Spruce Belt including the Pacific Coast and Coos Bay area in Coos County; • the North Pacific Coast Range, Foothills, and Valleys including Coos County; • the Sixty-four-Twenty Area including portions of Douglas and Jackson Counties, the Unquie National Forest, and portions of the Rogue River National Forest; • the Olympic and Cascade Mountains including Jackson and Klamath Counties; and portions of the Rogue River and Winema National Forests; and • the Klamath and Shasta Valleys and Basins in the southern part of Klamath County.	Regional maps from NRCS county soil surveys, coupled with the SSURGO data, were used to provide descriptions of the soil associations that are crossed by the proposed pipeline and at aboveground facility sites. The pipeline would not cross the Olympic and Cascade Mountains MLRA. It is located approximately 1 mile north of the pipeline.						

AP1 Continued, page 6 of 48

- AP1-33 The paragraph has been deleted to address the case that the geotechnical study was performed for the old route and that liquefaction issues for Hayes Inlet were already addressed in the section discussion.
- AP1-34 The text has been revised for consistency with the latest seismic information and approach to mitigation.
- AP1-35 The text has been revised to reflect that ground-based reconnaissance was performed for the two moderate risk landslides that are the subject of this discussion.
- AP1-36 The sentence is introducing the initial risk analysis for stream crossings which is correctly stating that a determination was made through evaluations of aerial photographs and GIS data. The section goes on to describe the more detailed analysis of high risk crossings including field data collection and engineering analysis. Therefore, no change was made to this sentence.
- AP1-37 The paragraph has been revised to clarify that the primary source of information is from STATSGO and SSURGO data.
- AP1-38 STATSGO was changed to SSURGO in the sentence.
- AP1-39 Change made as requested.

6

AP1-40	The text has been revised to the following: "Pacific Connector would reduce the potential for structural damage on wet soils by employing BMPs such as the use of low-ground-weight construction equipment, or operating normal equipment on timber riprap, prefabricated equipment mats, or terra mats. In addition, Pacific Connector would not conduct construction activities during extremely wet weather conditions."
AP1-41	The text has been revised to the following: "Pacific Connector would minimize soil compaction, rutting, and structural damage to wet soils and soils with poor drainage reduce the potential for structural damage on wet soils by employing BMPs such as the use of low-ground-weight construction equipment, or operating normal equipment on timber riprap, prefabricated equipment mats, or terra mats. In addition, Pacific Connector would not conduct construction activities during extremely wet weather conditions."
AP1-42	Change made as requested.
AP1-43	The text has been revised to reflect the correction in the application rate.
AP1-44	The text has been revised to the following: "Identified areas of soils susceptible to high or severe erosion rates on BLM and NFS lands would be evaluated by Pacific Connector for potential site-specific mitigation measures. If such measures are deemed necessary, Pacific Connector would work with the BLM and Forest Service to define site-specific mitigation measures."

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment	
Comment No.	DEIS Section & Page No.	DEIS Language		
45	4.3.3.1 4-335	If implementation or post-project monitoring show evidence, as defined by the BLM or Forest Service, of unacceptable surface erosion on an area of at least 100 square feet with a width of at least 5 feet, or unacceptable off-site sediment movement, Pacific Connector would be required by the terms of the Right-of-Way Grant to take additional erosion control measures to reduce sediment transport to background levels.	AP-45	Please delete the text in red font. Pacific Connector is unclear as to why specific dimensions would be necessary. The area referenced is not necessary and is confusing. Further, the last sentence in this paragraph adequately defines "unacceptable" levels of sediment transport.
46	4.3.3.1 4-337	Pull undisturbed surface soil in from outside the disturbance edges to help inoculate the affected site.	AP-46	Pacific Connector notes that this requirement appears to indicate work outside of the certified construction ROW. Pacific Connector will not implement this measure if so.
47	4.4.2.2 4-382	For all intermittent waterbodies without flow at the time of construction, Pacific Connector would utilize standard upland, cross-country construction methods identified in Pacific Connector's ECRP. At these crossings, the depth of cover would be 5 feet (from the top of pipe to the bottom of streambed).	AP-47	Pacific Connector notes that this statement is true except when a crossing is below bedrock (which represents the limit of scour depth). In instances where the pipeline is below scour depth in bedrock, the top of pipe may be at any elevation below scour depth.
48	4.4.2.2 4-384	Pacific Connector estimated it would take about 16 days to install the pipeline across Haynes Inlet.	AP-48	Pacific Connector described the rate at which trenching and pipe lay could occur under typical production with a pipe barge. However, there are numerous complications with tidal fluctuations, mechanical issues affecting production, materials and supply and operational access to lay barges, and accommodation of other boat traffic. All of these logistical issues will extend the construction schedule. Pacific Connector believes it is more prudent to assume that Haynes Inlet pipeline installation will occur over the entire fish window period of October 1 - February 15.
49	4.4.2.2 4-391	The raised levels of turbidity in the bay would occur over a 2- to 3-week construction period to traverse the 2.5 miles across Haynes Inlet.	AP-49	Pacific Connector estimated that at 500 feet of trench excavation per day, any given day of construction would give rise to a maximum of 100,000 gallons of turbidity associated with the area of excavation. The modeling results indicated that turbidity would not exceed regulatory requirements at the point of measurement. The time period to excavate the complete 2.5 miles can be longer than the excavation period to account for logistical items discussed above.
50	Table 4.3.2-1 4-413	Column "Total Construction Disturbance in Wetland" Palustrine scrub-shrub wetlands - 1.2	AP-50	Temporary impacts for Palustrine scrub-shrub - 0.82 acre
51	4.5.1.2 4-456	Column "Wetland Vegetation Affected by Fill, Located within Permanent Operational Corridor or Requiring Long-Term Restoration" Palustrine Forested wetlands - 5.2 Palustrine scrub-shrub wetlands - 1.2 Long-term impacts would occur to approximately 886 acres of LSOG forests, 864 acres of mid-seral forests, and 1,237 acres of clearcut/regenerating forests as a result of construction disturbances (table 4.5.1.2-2).	AP-51	Permanent impacts palustrine forested wetlands - 1.36 acres Permanent impacts palustrine scrub-shrub wetlands - 0.12 acre The total includes UCSAs, which would not be a long-term impact, as discussed in previous section. Revise text to indicate: 608 acres of LSOG; 682 acres of mid-seral, 1,020 acres of clearcut/regenerating

AP1 Continued, page 8 of 48

- AP1-45 Change made as requested
- AP1-46 Comment noted. No change to the text was necessary because the statement does not require Pacific Connector to work outside the certified construction right-of-way.
- AP1-47 This statement has been added to the FEIS.
- AP1-48 This statement has been added to the FEIS.
- AP1-49 This statement has been added to the FEIS.
- AP1-50 Based on FERC's analysis, approximately 5.2 acres of forested wetlands would be affected in the long-term (as these are forested wetlands and the restoration of these habitats would be long term). As a result, the extent of long-term impacts to forested wetlands is beyond the 1.36 and 0.12 acres of wetlands in the permanent right-of-way (as listed in the applicant's comments).
- AP1-51 Text would be revised as applicable. The concept of whether an UCSA could have long-term impacts would be reassessed (see the impact discussion in Section 4.5 regarding the potential impacts from storing materials in the UCSA).

Pacific Connector Gas Pipeline - Comments on DEIS		DEIS Language	Pacific Connector Comment
Comment No.	DEIS Section & Page No.		
52	4.5.1.2 4-456	Approximately 330 acres of permanent impacts (i.e., areas encompassed by permanent disturbance features such as right-of-way maintenance, access roads, and aboveground facilities) would occur to non-forested/woodland habitats as a result of the project operation. This includes approximately 117 acres of grasslands/shrublands, 23 acres of wetlands, 122 acres of agricultural areas, 35 acres of barren/developed areas, and 12 acres of open water (table 4.5.1.2-3).	AP-52 The 30-foot maintenance corridor within non-forested/woodland habitats (approximately 298 acres) should not be considered a "permanent" effect, as indicated by this statement's location under the "long-term" impacts section and text included in this comment. For example, this area includes UCSAs, which would not be a long-term impact, as they would be removed after the project is completed. The project would remove 682 acres of riparian habitat, 1,020 acres of clearcut/renewing vegetation within the upland portion of the 30-foot maintenance corridor, centered over the pipeline, would be maintained in an herbaceous/shrub state of less than 6 feet in height. * [see bullet #8 on page 4-456]
53	4.5.1.2 4-470	As shown in this table, approximately 661 acres of interior forest would be directly affected by construction of the pipeline while approximately 2,264 acres would be indirectly affected (i.e., would be within 300 feet of newly created edges).	AP-53 Change 300 feet to 100 meters: FWS indicated that indirect effects to forested habitat should consider 100 meters (330 feet); analyses for effects to MAMU and NSO habitat considered 100m.
54	4.5.1.3 4-478	- Pacific Connector has agreed to plant the easement with native trees/shrubs extending 100 feet from the streambanks on federal lands.	AP-54 This bullet seems to pull together two commitments that should be separate or better separated in the bullet: 1) plant ROW with native trees/shrubs, and 2) plant riparian areas affected by construction 100 feet from streambanks.
55	4.5.2.2 4-481	During Year One, timber clearing within one-quarter mile of occupied MAMU stands would occur between April 1 and November 30 on August 5), with daily restrictions through September 15 (activities occurring only between 2 hours after sunrise to 2 hours before sunset).	AP-55 Timber clearing will occur outside the entire MAMU breeding season (April 1 - September 15) within MAMU stand and 300 feet from MAMU stands. The clearing will occur between April 1 and November 30 on August 5 (Section 2.4.2.1, Page 2-105) and Attachment 6 for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.
56	4.5.2.2 4-481	However, Year Two pipeline construction, including helicopter use and blasting, would be conducted between April 1 and November 30 on August 5) through 4 within NSO nest patches and buffers without application of seasonal timing restrictions.	AP-56 This statement is specific to construction and not timber harvest and should be removed. Also, this statement is not accurate. Construction will occur after timber removal in MAMU stands and within 0.25 mile of MAMU stands but with DTRs applied April 1 through August 5 (MAMU critical breeding season; no construction will occur within 0.25 mile of active NSO activity center during the critical breeding period (March 1 - September 15)).
57	4.5.2 4-484	If danger trees are identified outside of the approved construction limits, the location of the trees, access to them, and removal would have to be identified by a modification request to FERC.	AP-57 The application and timber removal plan recognize danger trees as an immediate threat to life and health of workers. Danger trees will be cut by hand immediately without requesting a modification from FERC. Pacific Connector will provide notice to FERC Compliance monitors in the field.
58	4.6.1.2 4-525	Surveys of known nests of raptor species with nesting buffers that intersect the pipeline right-of-way would be conducted prior to tree clearing. Those species include bald eagle, great gray owl, and peregrine falcon. If nests are active, clearing trees and disturbance by airplane or helicopter within buffers would be delayed until after the nesting period.	AP-58 Survey protocols are contained in the Migratory Bird Conservation Plan (see response to DEIS Recommendation #4 filed February 13, 2015).

8

AP1 Continued, page 9 of 48

- AP1-52 As ongoing clearing and maintenance would be conducted in the 30-foot maintenance corridor, and activities could occur, impacts would be permanent. Text has been modified to indicate the limited extent of these impacts though.
- AP1-53 Regarding the UCSA, the EIS discusses how impacts in these areas could be long-term: "Trees may be more susceptible to infestation that are damaged during clearing activities and/or have soil compacted over their roots, including those within UCSAs"
- AP1-54 If Pacific Connector and the FWS have agreed to change the values to 100 meters (i.e., approximately 328 feet) instead of 300 feet (i.e., approximately 91.4 meters), then Pacific Connector would need to provide an updated table that lists the new values calculated at 100 meters. This new data will be added to the FEIS.
- AP1-55 Text revised.
- AP1-56 Text revised.
- AP1-57 Text revised.
- AP1-58 Text revised.

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment
Comment No.	DEIS Section & Page No.	DEIS Language	
59	4.6.1.2 4-307	Sixteen wildlife habitats... #14) Coastal Dunes and Beaches, no longer applies	AP-59 Category has been changed in the PCGP Project Wildlife Habitat Mitigation Plan (see response to DEIS Recommendation 22 filed February 13, 2015). Bared/Unvegetated lands since Coastal Dunes are not affected by the PCGP Project.
60	4.6.1.2 4-315	ODFW Habitat Characterization	AP-60 See response to DEIS Recommendation #21 filed February 13, 2015.
61	4.6.1.2 4-317	Timber clearing, as it potentially affects bats, has been changed.	AP-61 See Section 2.2.2 in the Draft Migratory Bird Conservation Plan (see response to DEIS Recommendation 14 filed February 13, 2015).
62	4.6.1.2 4-318	Based on their distributions in southwestern Oregon, 278 bird species may be present in habitats that would be crossed by the Pacific Connector pipeline.	AP-62 Include reference (Johnson and O'Neil, 2001).
63	Table 4.6.1.2-7 4-319	Discussion of migratory birds and Table 4.6.1.2-6	AP-63 Update with recent data in Table 3.4-2 provided in the Draft Migratory Bird Conservation Plan (see response to DEIS Recommendation 14 filed February 13, 2015).
64	4.6.1.2 4-321	Timber clearing, as it potentially affects nesting migratory birds, has been changed.	AP-64 See Section 2.2.2 in the Draft Migratory Bird Conservation Plan (see response to DEIS Recommendation 14 filed February 13, 2015).
65	Table 4.6.1.2-7	Table 4.6.1.2-7 has been revised	AP-65 See Table 4.5-3 in the Draft Migratory Bird Conservation Plan (see response to DEIS Recommendation 14 filed February 13, 2015). change to: "within a 300-foot radius from MAJU stands"
66	4.6.1.2 4-323	Pacific Connector would not clear timber within a 0.25-mile radius from MAJU stands from April 1 through August 5 or within a 0.25-mile radius from a NSO nest patch from March 1 through July 15.	AP-66 Please refer to the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Projects timber felling, logging, clearing, and construction activities.
67	Table 4.6.1.2-8	Spatial buffers in Table don't apply to all species	AP-67 Spatial buffers listed in the Draft Migratory Bird Conservation Plan (see response to DEIS Recommendation 14 filed February 13, 2015) are based on buffers provided by USFWS, USFS, and BLM (see Appendix F in FERC DEIS). Note that the National Bird Eagle Management Guidelines (USFWS, 2007) recommend a 660-foot (200 m) buffer surrounding nests during the breeding season applied to timber harvest, road construction, chain saw and yarding operations (assumed similar to timber clearing & pipeline construction).
68	4.6.1.2 4-325	Reference to Migratory Bird Conservation Plan	AP-68 Please see paragraphs on page for consistency with Draft Migratory Bird Conservation Plan.
69	4.6.1.2 4-326	Take of migratory birds - timber clearing/construction	AP-69 Revise discussion to reflect new timber clearing and information included in the migratory bird plan (see draft Migratory Bird Conservation Plan provided in response to DEIS Recommendation #14 and filed February 13, 2015). Also see the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.

AP1 Continued, page 10 of 48

AP1-59	Text revised.
AP1-60	Text revised.
AP1-61	Text revised.
AP1-62	Text revised.
AP1-63	Text revised.
AP1-64	Text revised.
AP1-65	Text revised.
AP1-66	Text revised.
AP1-67	Text revised.
AP1-68	Text revised.
AP1-69	Text revised.

Pacific Connector Gas Pipeline - Comments on DEIS			DEIS Language	Pacific Connector Comment
Comment No.	DEIS Section & Page No.			
70	4.6.1.2 4-531 4-531		Pacific Connector would apply the following ODFW, BLM, and Forest Service recommended seasonal closures for big game winter range with the exception of big game winter range located in Klamath Basin, where a waiver would be obtained: November 15 to April 1 (BLM), December 1 to April 1 (Forest Service), and final comments from December 1 to April 1 (Forest Service). Pacific Connector would request additional waivers from federal land-managing agencies where timber-clearing activities are affected by ESA-listed species' seasonal restrictions.	AP-70 Pacific Connector notes that with the numerous seasonal restrictions to protect applicable species pursuant to the Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA), will require timber clearing activities to be conducted outside nesting seasons during the spring and summer months. Therefore, Pacific Connector will be required to complete timber clearing activities during recommended seasonal closures for big game winter range and appropriate waivers for recommended seasonal big game closures will be necessary.
71	4.6.1.2 4-532		The Oregon spotted frog (a candidate species for listing under ESA)	AP-71 Oregon spotted frog is now listed "threatened" under ESA; note that this species is included in T&E section.
72	4.6.1.2 4-535		Weed surveys would take place prior to vegetation removal, and areas would be pre-treated through mowing.	AP-72 Add: and herbicide spot treatment
73	4.6.1.2 4-542		On the Umpqua National Forest, MIS include NSO, pileated woodpecker, primary cavity excavators (nesters), pine marten, Roosevelt elk, Columbian black-tail deer, peregrine falcon, and bald eagle. On the Rogue River National Forest, MIS species include Columbian black-tailed deer, Roosevelt elk, pine marten, NSO, pileated woodpecker, and primary cavity excavators (nesters). On the Winema National Forest, MIS include NSO, pileated woodpecker, primary cavity excavators (nesters), bald eagle, mule deer, resident trout, and pine marten. Potential effects of the Project on MIS, and by association wildlife with similar habitat needs, are assessed in the MIS Report (appendix M of this EIS).	AP-73 Add "water quality indicator species" for the list of MIS in Umpqua N.F., and expand "three-toed woodpecker" listed for Fremont-Winema National Forest to include "black-backed woodpecker" as requested by Fremont-Winema National Forest and as included listed in Appendix M: three-toed woodpecker or black-backed woodpecker.
74	4.6.1.3 4-545		Pacific Connector would apply the following ODFW, BLM, and Forest Service recommended seasonal closures for big game winter range with the exception of big game winter range located in Klamath Basin, where a waiver would be obtained: November 15 to April 1 (BLM), December 1 to April 1 (Forest Service), and final comments from December 1 to April 1 (Forest Service). Pacific Connector would request additional waivers from federal land-managing agencies where timber-clearing activities are affected by ESA-listed species' seasonal restrictions.	AP-74 Pacific Connector notes that with the numerous seasonal restrictions to protect applicable species pursuant to the Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA), will require timber clearing activities to be conducted outside nesting seasons during the spring and summer months. Therefore, Pacific Connector will be required to complete timber clearing activities during recommended seasonal closures for big game winter range and appropriate waivers for recommended seasonal big game closures will be necessary. Also see the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal listing restrictions for the Project's timber harvest and timber processing activities.
75	4.6.1.3 4-545		That impact would not be able to be mitigated and is assumed to persist through the long term.	AP-75 Add: "mitigated" "on-site". Refer to CUPP and mitigation actions to offset the long-term impact.
76	4.6.2.1 4-546		"...marine mammals including whales, seals, and dolphins	AP-76 Change dolphins to sea lions. No recent record of dolphins (see BLM, 2005 North Spit Plan).
77	4.6.2.3 4-584		"It is possible that killer whales, porpoises, and pinnipeds could be found in Coos Bay"	AP-77 Delete "porpoises." no records known.

AP1 Continued, page 11 of 48

AP1-70	Text revised.
AP1-71	Text revised.
AP1-72	Text revised.
AP1-73	Text revised.
AP1-74	Text revised.
AP1-75	Text revised.
AP1-76	Text revised.
AP1-77	Information has been added.

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment	
Comment No.	DEIS Section & Page No.	DEIS Language		
78	4.6.2.3 4-509	As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, on a quarterly basis over two years after construction.	Please refer to Pacific Connector's response to DEIS Recommendation #23 which provides the Stream Crossing Risk Analysis Addendum (GeoEngineers, 2015). The monitoring section of this addendum provides a plan that supersedes the monitoring schedule provided in the 2013 Risk Analysis and DEIS. The revised monitoring plan was developed in consultation with a representative of FWS and NMFS (Castro, 2015).	AP-78
79	4.7.1.1 4-530	wolf status	Update wolf status to indicate successful pups for OR7, and a new activity center (Keno Pair)	AP-79
80	4.7.1.2 4-536	Through a combination of GIS data provided by the BLM and private timber companies, and field surveys conducted between 2007 and 2013....	Revise text: Field surveys were conducted through 2014	AP-80
81	4.7.1.2 4-536	Construction of the Project would remove a total of about 926 acres of MAMU habitat (suitable, recruitment, capable), including about 59 acres of suitable habitat removed from 25 stands.	Revise Text: Only 20 of 25 MAMU stands crossed by the PCGP Project is expected to have forested / suitable habitat removed; 12 occupied stands, one unoccupied - occupied in 2014), and 6 presumed occupied.	AP-81
82	4.7.1.2 4-537	There is the potential that indirect impacts could extend over a total of about 6,841 acres of suitable nesting habitat in the terrestrial nesting analysis area, where project-related noise, including use of access roads, may affect MAMU behavior, including breeding activities	Identify that the majority of indirect impacts (65%) is from use of existing access roads.	AP-82
83	4.7.1.2 4-537	Twelve occupied and 24 presumed occupied MAMU stands occur within CHU OR-06 (b, c, and d) within the proposed terrestrial analysis area.	The following was included in the BA: Eleven occupied matted murrelet stands occur within CHU OR-06 (b, c, and d) within the proposed terrestrial analysis area. Including four occupied stands selected during Pacific Connector survey efforts in 2007, 2008, and 2009, and seven occupied stands identified in the 2013 Risk Analysis. Presumed occupied stands within designated critical habitat in the terrestrial analysis area: OR-06-a (one stand), OR-06-c (three stands), and OR-06-d (24 stands; one unoccupied stand, too).	AP-83
84	4.7.1.2 4-537	Pacific Connector would implement a number of measures to reduce impacts on MAMU habitat, including using UCSAs, and replanting conifer trees outside of the 30-foot-wide maintenance corridor on certain federal lands and non-federal lands	Delete "on certain federal lands and non-federal lands." Pacific Connector intends to replant conifer trees in areas that were forested prior to construction on all federal and non-federal lands outside of the 30-foot corridor unless instructed otherwise by the landowner.	AP-84
85	4.7.1.2 4-537	measures to reduce impacts to MAMU	Pacific Connector is currently in discussions with FWS to implement mitigation for direct effects to MAMU to compensate for potential loss of MAMU habitat. Mitigation would be the provision of funds (~\$350,000) toward monitoring a multi-year covid-related MAMU nest predation mitigation program that would include education outreach and control of anthropogenic food sources.	AP-85
86	4.7.1.2 4-539	The pipeline route would cross through 90 NSO home ranges, and 8 nest patches.	Revise NSO home range and nest patch count. APDBA provided in April 2014 indicated 91 home ranges and 9 nest patches crossed; the total may change, however, based on directives provided by FWS. BLM and Forest Service on incursion of all historic owl sites since predictive / computer-generated ows have been removed for consideration.	AP-86

AP1 Continued, page 12 of 48

AP1-78	Change made as requested.
AP1-79	The text has been updated to reflect this wolf activity in the vicinity of the pipeline since the DEIS was published.
AP1-80	Text revised.
AP1-81	This information has been updated based on the PCGP data response dated 7/7/2015.
AP1-82	Text revised.
AP1-83	Text revised.
AP1-84	Comment noted. As there is potential that some lands would not be revegetated based on landowner instructions, the text was not revised.
AP1-85	Text revised.
AP1-86	This information has been updated based on the PCGP data response dated 7/7/2015.

Pacific Connector Gas Pipeline - Comments on DEIS		DEIS Language		Pacific Connector Comment	
Comment No.	DEIS Section & Page No.				
87	4.7.1.2 4-539	Potential direct effects to NSOs would include the following: (1) removal of a known nest tree during the entire breeding season (March 1 through September 30)		Within 0.25 mile of known NSO activity centers, timber removal would occur outside the entire NSO breeding season (March 1 through September 30). To determine if additional activity is within the Project area since 2007/2008 survey efforts, NSO spot-check surveys will occur within 0.25 mile of habitat removal within seasonal nesting, roosting, and foraging areas. NSO spot-check surveys will occur within 0.25 mile of known nest trees should be removed. Please see the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.	AP-87
88	4.7.1.2 4-539	and (2) human and noise disturbance due to right-of-way clearing and construction during the breeding period		Noise disturbance would be due to construction during the breeding period. All timber clearing within 0.25 mile of known NSO activity centers will occur outside of the entire breeding season. All other timber habitat will be removed after July 15, after the NSO critical breeding period. Please refer to the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.	AP-88
89	4.7.1.2 4-539	(1) removal or modification of suitable NRF habitat, dispersal habitat, and habitat that would be capable, over the life of Project, to achieve dispersal or NRF habitat characteristics but for the Project's impacts within LSR, Riparian Reserves, or NSO home ranges;		It is a speculative assumption that outside of LSR or Riparian Reserves timber removal would be outside of the NSO NRF, since one management of Matrix is to allow for timber harvest.	AP-89
90	4.7.1.2 4-539	To reduce disturbance, Pacific Connector would initial the pipeline within 0.25 mile of activity centers after the critical breeding period (after July 15).		Also to reduce disturbance, timber removal within 0.25 mile of activity centers will occur outside of the entire breeding period (March 1 through September 30). Please refer to the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.	AP-90
91	4.7.1.2 4-540	Additionally, benefits to MAMU from these BLM projects are identified in the BA (FERC 2014).		Should be "NSO" not MAMU.	AP-91
92	4.7.1.2 4-540	currently below thresholds needed to sustain NSOs		This terminology is from the NSO Incidenta Take Statement (ITS) document that was discounted when use of computer-generated/predicted ovis was determined by court to be unusable in environmental and biological analyses. FWS has taken this out of their comments and replaced it with the following: "The project area does not coincide with the historic Myrtlewood owl site? If so, not 'identified' in June 2014, different agency decision provided to Pacific Connector after discontinuation of predicted ovis that determined all known NSO sites should be considered in analyses, including historic owl sites (i.e., Myrtlewood site that has been inactive > 20 years).	AP-92
93	4.7.1.2 4-541	footnote 111 and 112: These numbers do not include values associated with the nest site identified in June 2014		The project area does not coincide with the Klamath River down stream from Iron Gate Dam which is the portion currently occupied by SONCC coho. The project area coincides with historical habitat occupied by SONCC coho but not with the current ESU.	AP-93
94	4.7.1.3 4-541	Major rivers, estuaries, and bays known to support coho salmon within the range of the SONCC ESU include the Rogue River, Smith River, Klamath River, Mad River, Humboldt Bay, Eel River, and Mattole River (NRP'S 1999). Two of which (i.e., the Rogue and Klamath Rivers) are within the project area.			AP-94

12

AP1 Continued, page 13 of 48

- AP1-87 The DEIS identifies removal of a known nest tree during the entire breeding season as a potential direct effect, but indicates in the following paragraph measures that would be taken to reduce these effects, including observing seasonal restrictions. Additional language was added to section 4.7 for clarification.
- AP1-88 The DEIS identifies disturbance during clearing during the breeding season as a potential direct effect, but indicates in the following paragraph measures that would be taken to reduce these effects, including observing seasonal restrictions. Additional language was added to section 4.7 for clarification.
- AP1-89 Comment noted.
- AP1-90 Text revised.
- AP1-91 Text revised.
- AP1-92 Comment noted. Text retained in the DEIS because it reflects the habitat conditions within the NSO nest patches.
- AP1-93 These footnotes refer to the historic Myrtlewood site that was identified as needing to be analyzed in a public comment in June 2014.
- AP1-94 Change made as requested.

Comment No.	DEIS Section & Page No.	Pacific Connector Gas Pipeline - Comments on DEIS		Pacific Connector Comment	
		DEIS Language	Pacific Connector Comment		
95	4.7.1.5 4-563	- use of the Medford Industrial Park Yard, even if it does not support the meadowfoam and vernal pools species, potentially could indirectly affect large-flowered woolly	Pacific Connector has removed Medford Industrial Park pipe yard from the project.	AP-95	
96	4.7.4.1 4-579	Pacific Connector conducted surveys in 2007, 2008, and 2010 for special status mollusks, fungi, and vascular and non-vascular plants, including BLM and Forest Service sensitive species.	Pacific Connector has conducted surveys from 2007 through 2014 for special status mollusks, fungi, and vascular and non-vascular plants, including BLM and Forest Service sensitive species.	AP-96	
97	4.7.4.2 4-583	Traveling sideband is a BLM and Forest Service sensitive species (ISSSP 2011) and a rare Oregon endemic terrestrial snail. During surveys in 2007 and 2010, this species was observed at 8 locations on the Rogue River and Winema National Forests (between MPs 154.9 and 175.3), and at 6 locations on BLM land in the Lakeview and Medford BLM Districts (MPs 116.5 to 176.9).	Add: 2014 surveys did not document this species.	AP-97	
98	4.7.4.2 4-583	During Project surveys in 2007 and 2010, this species was observed at 12 locations on the Rogue River and Umpqua National Forests (between MPs 10.18 and 14.5) and 6 locations in the Medford and Roseburg BLM Districts (MPs 129.9 to 151.5).	Add: 2014 surveys did not document this species.	AP-98	
99	4.7.4.2 4-584	Between 2007 and 2010.	Revise: Between 2007 and 2014	AP-99	
100	4.7.4.2 4-584	This possible effect would be mitigated by fencing off and marking known occurrences of sensitive bryophyte species along the right-of-way and not disturbing them.	This site is located further than 200 feet from Project disturbance; flagging this site and fencing off this site is not necessary. BE indicates this site would be avoided and identifies "no impact."	AP-100	
101	4.7.4.2 4-584	Measures to avoid this site considered but excluded in order to avoid a rare fungus, <i>Gymnomycetes abietis</i> , which was also found at the same location on the north end of the meadow at MP 154.8.	Add that <i>Gymnomycetes abietis</i> is a S&M species, discussed below in Section 4.7.4.3.	AP-101	
102	4.7.4.3 4-592	This species was observed at 12 locations on the Rogue River and Winema National Forests (between MPs 10.18 and 14.5) and 6 locations on BLM land in the Lakeview and Medford BLM Districts (MPs 116.5 to 176.9).	<i>Phyla vulgaris</i> is missing from this list.	AP-102	
103	4.7.4.3 4-592	<i>Phaeocollybia fallax</i> , and Appendix K	This analysis is based off of 1999 observation/delineated site on Malheur; the area identified as site that would be affected by the Project occurs in regenerating forest (harvested in 2007; FCI, 2014). The project should not affect this site.	AP-103	
104	4.7.4.3 4-592	<i>P. piceae</i> , <i>P. apfel</i> , <i>P. spadeae</i>	These sites were documented by Coos Bay BLM in 2012; Pacific Connector does not have this data. If sites are near the project area (MPs 21.3 and 21.5), this area is mid-seral forest and the project follows a cleared pastureline corridor.	AP-104	
105	4.7.4.3 4-593	Construction of the Project would create an open corridor, which would be dominated by early seral vegetation for approximately 30 years. This is a long-term effect that could modify microclimate conditions around populations or individuals adjacent to the corridor during the early seral vegetation phase.	Although it should be noted that not all species could be affected by open corridors or change in forest age (see species habitat for <i>P. fallax</i> , <i>P. piceae</i> , <i>P. apfel</i> , and <i>P. spadeae</i> described in comments above).	AP-105	
106	4.7.4.3 4-703	<i>Leptogium tenellusculum</i>	This observation (2001) is located approximately 20 meters from an existing road (not proposed for project use), and 98 meters from habitat removal.	AP-106	

13

AP1 Continued, page 14 of 48

AP1-95	Text clarified.
AP1-96	Text revised.
AP1-97	Text revised.
AP1-98	Pacific Connector's April 27, 2015 response to FERC's data request indicates that 8 additional Siskiyou Hesperian mollusk sites were located in Rogue River and Winema National Forests during survey efforts in 2014.
AP1-99	Text revised.
AP1-100	The fencing and marking measures described are general measures that would be applied to known occurrences of sensitive bryophytes within the right-of-way, not the Metzgeria violacea site. See the subsequent paragraph for a description of the Metzgeria violacea site, and the conclusion that the plants would not be negatively affected and thus that no avoidance or mitigation plan has been prepared.
AP1-101	Text revised.
AP1-102	This species was inadvertently left off. This list will be updated to include it in the FEIS.
AP1-103	FEIS not updated. This species was not determined to be a concern, so analysis is conservative. See statement at end of second paragraph on page 1-19 of the appendix K report.
AP1-104	FEIS not updated. This species was not determined to be a concern, so analysis is conservative. See statement at end of second paragraph on page 1-19 of the appendix K report.
AP1-105	Text revised.
AP1-106	The analysis is based on project details that included assumptions on roads that would be used and improved. If the Applicant revises the TMP in conjunction with BLM to conclude the road in question is not part of the project, this new information will be incorporated at the point in time this section of the FEIS and Appendix K is revised.

Pacific Connector Gas Pipeline - Comments on DEIS		
Comment No.	DEIS Section & Page No.	DEIS Language
107	4.7.4.3 4-703	<i>[Fusopinnaria saubinetii.]</i> The species listed below has been documented near the project area, but the Project is not expected to affect site persistence at any sites based on the proximity and nature of proposed activities in the site.
108	4.7.4.3 4-707	The removal of conifers and mixed hardwood-coniferous forests adjacent to the project area could result in the loss of habitat to soil biota. SOG could negatively affect the plants in adjacent areas by removing their habitat, potentially affecting site persistence even if the entire site is not disturbed. In addition, modification of shading, moisture, and habitat conditions as a result of the corridor and TEVAs could make habitat within the sites no longer suitable for the species.
109	General 4.7.4.3 and Appendix K	The applicant shall also prepare and implement a monitoring plan that includes species listed in Appendix K that are identified in the comments to the sites per the long term, as specified by the agency responsible for management of the sites. The monitoring plan shall be approved by the BLM and Forest Service.

AP-107

AP-108

AP-109

14

AP1 Continued, page 15 of 48

- AP1-107 No revisions are required to either the FEIS or Appendix K. All species with sites that intersect with the analysis area are included in the analysis. Refer to Section 1.5.5 of the appendix K report for clarification on the analysis areas.
- AP1-108 Text revised.
- AP1-109 The text in the FEIS has been edited to reflect the monitoring plans would be developed by the BLM and Forest Service and not the applicant.

Pacific Connector Gas Pipeline - Comments on DEIS		DEIS Language	Pacific Connector Comment
Comment No.	DEIS Section & Page No.		
110	4.9.1.4 Table 4.9.1.4-2 4-793	"For both projects combined, there would be total direct employment of 7,073 FTEs during the entire period of construction; an indirect impact of an additional 6,120 non-project jobs; and 7,353 induced other jobs. The companies would spend a combined total of \$4.5 billion to build both the terminal and pipeline, supporting \$1.7 billion, and \$914 million in indirect and induced economic output, respectively."	AP-110 Some of the IMPLAN results reported in the text are inconsistent with those reported in Table 4.9.1.4-2, which lists direct construction employment of 922 on average and \$3 billion in direct spending and \$1.2 billion in indirect spending. Please resolve inconsistencies in reported IMPLAN results.
111	4.9.1.4 Table 4.9.1.4-2 4-793	Table 4.9.1.4-2 columns	AP-111 The IMPLAN estimates of value added (regional GDP) for the combined JCP and PCGP are discussed in the text associated with this table. Why doesn't Table 4.9.1.4-2 list estimated value added for the PCGP pipeline alone. (GRP) for the combined JCP and PCGP?
112	4.9.1.4 Table 4.9.1.4-2 4-793	Table 4.9.1.4-2 footnotes	AP-112 1) Footnotes a and c should attach to figures shown in the Labor Income column. 2) Add a footnote to the Labor Income column stating "Labor Income is the sum of wages, salaries and benefits for payroll employees, and the sum of wages, salaries and benefits for self-employed individuals." 3) Add a footnote to the Output column stating "Output represents the value of spending associated with a project or the total value of all production components."
113	4.9.1.4 Table 4.9.1.4-2 4-793	Construction According to Table 4.9.1.4-2, footnote a, direct project spending of \$3 billion excludes wages and benefits.	AP-113 Wages and benefits are a significant portion of project spending and should be included in the reported estimate of direct project spending (Output) during construction. It is unclear why the total output (expenses) associated with project operations is not reported. Please include a footnote explaining why the reported direct project spending and output estimates do not include estimates of indirect and induced output.
114	4.9.1.4 Table 4.9.1.4-2 4-793	Operation Indirect Expenses: Not known Induced Expenses: Not known	AP-114 Unemployment rates are listed in Table 4.9.2.4-1 rather than Table 4.9.2.4-2.
115	4.9.2.4 4-815	"Annual unemployment rates in 2012 ranged from 10.7 percent in Coos County to 12.2 percent in Douglas County, and were higher than the state average (8.7 percent) in all four counties that would be crossed by the pipeline route (table 4.9.2.4-2)."	AP-115 Replace "1,106 non-local workers..." with "1,106 non-local workers..."
116	4.9.2.7 4-826	"As previously estimated, at the peak of pipeline construction about 1,106 non-local workers and their family members would relocate to the areas and they would need short-term housing."	AP-116 Suggest updating this text to reflect expiration of the Secure Rural Schools Act in 2014. For example, "In 2014, the expiration of the SRS Act, the 1908 Act requiring 25% payments will govern the distribution of payments to states."
117	4.9.3.2 4-833	"This program has been extended since it expired in 2007, with the program most recently reauthorized for Fiscal Year 2012."	AP-117 Could add as a footnote "In a 2006 letter Oregon Indian Affairs identified six tribes (The Confederated Siletz, the Confederated Coos, the Coquille Indian Tribe, the Confederated Grand Ronde, the Cow Creek Band of Unquapa Tribe of Indians, and the Klamath Tribe) for direct contact/consult regarding the Pacific Connector Pipeline Project."
118	4.11.1.2 4-865		AP-118 Since 2013 the Cow Creek have also provided monitors for work in Jackson County. Please revise text to read "...conducted by HPA in Douglas and Jackson counties."
119	4.11.1.2 4-866	Members of the Cow Creek Tribe volunteered as monitors during archaeological surveys and test excavations conducted by HPA in Douglas County.	AP-119

AP1 Continued, page 16 of 48

- AP1-110 Change made as requested.
- AP1-111 Section 4.9.1.4 has been revised in the FEIS to clarify the analysis. The results related to the Pacific Connector pipeline in this section are only for the portion in Coos County to provide a combined total in the local area of the Jordan Cove LNG Terminal. Table 4.9.2.4-4 is for the complete Pacific Connector Project.
- AP1-112 Change made as requested.
- AP1-113 Wages and benefits are reported in the "Wages" column for direct spending in table 4.9.1.4-2.
- AP1-114 Change made as requested.
- AP1-115 Change made as requested.
- AP1-116 Change made as requested.
- AP1-117 Change made as requested.
- AP1-118 No change made. As noted in Section 4.11.1.2 on page 4-855 of the DEIS, this section addresses post-2009 consultations only and previous efforts, including the 2006 Oregon Indian Affairs letter and suggested tribes, can be referenced in the May 2009 FEIS.
- AP1-119 The text has been revised to note that Cow Creek tribal members participated in archaeological surveys and test excavations in Douglas and Jackson counties, as noted.

Pacific Connector Gas Pipeline - Comments on DEIS			DEIS Language	Pacific Connector Comment	
Comment No.	DEIS Section & Page No.				
120	4.12.1.2 4-587		As mentioned above, the compressor station and approximately 4 miles of pipeline would be located within the Klamath Falls PM2.5 nonattainment area, and approximately 300 feet of pipeline would be located within the PM10 maintenance area.	This is not correct see response to previous comment (Section 1.5.1.8, pg. 1-37).	AP-120
121	5.1.5 5-11		Construction of the Pacific Connector pipeline and associated facilities would result in the loss of approximately 1,712 acres of forested habitat, 1,172 acres of grassland/shrubland, and 180.5 acres of wetland/riparian vegetation types. Approximately 1,237 acres of large mature trees over 40 years in age and approximately 1,237 acres of small to medium trees under 40 years in age would be harvested during construction of the pipeline. Operation of the pipeline and associated facilities would have permanent impacts on approximately 547 acres of forest vegetation, including approximately 153 acres of L30G forests, 169 acres of mid-seral forests, and 223 acres of regenerating young forests.	Similar to statement included for Jordan Cove on the previous page, this summary paragraph should indicate that "Pacific Connector would compensate for the loss of vegetative habitat through actions identified in the CHMP, such as the Riparian and Wildlife Habitat Mitigation Plan, as well as other plans included the POC".	AP-121
122	5.1.5 5-11		On BLM land, the project would remove 791 acres of coniferation forest, 1,172 acres of grassland/shrubland, and 180.5 acres of wetland/riparian vegetation types. The pipeline to F20e riparian land, which includes about 174 acres on the Coast Bay District, 330 acres on the Roseburg District, 270 acres on the Medford District, and 18 acres on the Lakeview District. Pacific Connector would minimize habitat loss through its ECRP and its Habitat Mitigation Plan. To compensate for the loss of cavities and snags within the construction right-of-way, Pacific Connector would top or girdle trees at the edge. Pacific Connector would also put up nesting boxes within riparian areas.	Please remove "forest land." The BLM FCI coverage includes forested and non-forested lands. Totals provided here are for both categories.	AP-122
123	5.1.6 5-13		Pacific Connector would minimize habitat loss through its ECRP and its Habitat Mitigation Plan. To compensate for the loss of cavities and snags within the construction right-of-way, Pacific Connector would top or girdle trees at the edge. Pacific Connector would also put up nesting boxes within riparian areas.	Summary paragraph should also mention that: "Pacific Connector will avoid or minimize effects to migratory bird species implementing measures outlined in the Migratory Bird Plan"	AP-123
124	5.1.7 5-14		Because of concerns about the adequacy of surveys for this invertebrate, we are recommending that Pacific Connector conduct the presence or absence of vernal pool fairy shrimp at all yards with habitat, before use of the yards would be allowed.	Pacific Connector has removed from consideration yards in Jackson County with vernal pool presence (Avenue C and 7th, and Medford Industrial Park); no surveys at those yards would be necessary.	AP-124
125	5.1.7 5-14		Bulleeted list	In bullet list, include Fisher (west coast DPS) and denote Green Slurgeon (Southern DPS) as Likely to Adversely Affect.	AP-125
126	5.1.7 5-15		Bulleeted list	In bullet list, add Green Slurgeon as "Likely to Adversely Affect."	AP-126
127	5.1.7 5-15		We are recommending that Pacific Connector make minor adjustments to its pipeline route on NFS land to avoid impacting two snail species.	See response to DEIS Recommendation # 25, filed February 13, 2015.	AP-127
128	5.1.7 5-15		We are recommending that Pacific Connector make minor route adjustments on NFS land to avoid impacts to three fish species: C. abietalis, G. abietalis, and S. pulchra.	See response to DEIS Recommendation # 26, filed February 13, 2015.	AP-128
129	Appendix J Comment		None of the species on the S&M list are listed under the Endangered Species Act. Species are considered Sensitive or Strategic species by the BLM or Forest Service.	Appendix J needs to be reviewed for errors. The Table of Contents needs to be updated. Table 2.3.6.4-1 lists Vernal and Orange when they are listed under the S&M list. The Table of Contents does not reference the colors. The table numbering and citations to tables in the DEIS text and the Appendix text need to be checked.	AP-129
130	Appendix K Section 1.4 1-7		None of the species on the S&M list are listed under the Endangered Species Act. Species are considered Sensitive or Strategic species by the BLM or Forest Service.	Red tree vole is listed as a Candidate by FWS; Wayside Aster is listed as Threatened by Oregon. Suggest revising statement.	AP-130

AP1 Continued, page 17 of 48

AP1-120	Text has been corrected.
AP1-121	Text modified.
AP1-122	Text modified.
AP1-123	Text revised.
AP1-124	Text revised. Note that surveys would be required at potentially suitable habitat within and adjacent to the right-of-way between MPs 145.34 and 145.40.
AP1-125	Change made as requested.
AP1-126	Change made as requested.
AP1-127	Based on additional non-project records and USFS recommendation, we are recommending that Pacific Connector no longer consider these minor adjustments on NFS land.
AP1-128	Information has been revised.
AP1-129	Appendix J has been reviewed for errors in the FEIS.
AP1-130	The statement that none of the S&M species are listed under the ESA is correct. Candidate FWS species and Oregon threatened species are included in the Sensitive or Strategic species lists of the BLM and Forest Service.

Pacific Connector Gas Pipeline - Comments on DEIS		DEIS Language	Pacific Connector Comment
Comment No.	DEIS Section & Page No.		
131	Appendix K Section 1.5.3 1-9	Project Surveys	A statement should be added about additional survey efforts on federal lands: Pacific Connector continues to conduct protocol surveys for S&M species on federal lands to complete surveys within the proposed Project area. Including areas where Pacific Connector made minor survey modifications. Additional survey data has been collected in 2013 and 2014. Survey efforts will continue through 2016 (two years of surveys for S&M fungi). Suggested additional language: BLM and Forest Service expect additional data collected for the Project to add to the known observations within respective databases since most additional survey efforts are outside of the proposed Project footprint; additional observations would not be expected to change the conclusions for the species included in this analysis. If S&M species not currently included in Appendix K are included in the analysis, a project-specific persistence analysis would be conducted and included in the final survey documents.
132	Appendix K Section 1.5.3 1-10 Fungi - 1	Surveys were conducted within old-growth stands in the PCGP Project area, and within a 100-foot buffer of proposed habitat removal unit width that ranged generally from 250 feet to 300 feet.	Add: Surveys were "generally" conducted depending upon species and field conditions. Revise: and within a 100-foot buffer of proposed habitat removal (surveys did not buffer LCSAs, where no habitat removal would occur, but all LCSAs were included in survey efforts).
133	Appendix K Section 1.5.3 1-10 Fungi - 2	Persistence surveys included several levels, ranging from 100-meter radius to 200 feet on either side of the PCGP Project area. Persistence surveys were conducted in 44 areas adjacent to the project area, on LSR lands near the project area, and in the Cascade-Siskiyou National Monument.	Persistence surveys were conducted within 0.25 mile in appropriate habitat around "rare" fungi.
134	Appendix K Section 1.5.3 1-10 Lichen - 1	Full coverage complete surveys were conducted within the PCGP Project area, and the intuitive-controlled method was used in suitable habitat within 200 feet on either side of the PCGP Project corridor and 50 feet on either side of proposed TMP access roads.	Surveys were generally conducted within approximately 200 feet of the project centerline (2007 to 2009) or within 100 feet of proposed habitat removal (2010-2014 survey efforts).
135	Appendix K Section 1.5.3 Bryophyte - 1	Surveys were conducted in suitable habitat within 200 feet on either side of the PCGP Project corridor and 50 feet on either side of proposed TMP access roads.	Same comment as Lichen, above.
136	Appendix K Section 1.5.3 1-11 Vascular - 1	Surveys for special-status vascular plants, including S&M plants on the 2004 list...	Revise: "Including S&M plants", (delete "on the 2004 list").
137	Appendix K Section 1.5.3 1-11 Vascular - 1	Full coverage complete surveys were conducted within the PCGP Project area, and the intuitive-controlled method was used in suitable habitat within 200 feet on either side of the PCGP Project area and 50 feet on either side of proposed access roads.	Same comment as Lichen, above.

AP1 Continued, page 18 of 48

- AP1-131 The clarification regarding surveys has been added to Appendix K.
- AP1-132 The clarification regarding surveys has been added to Appendix K.
- AP1-133 The clarification regarding surveys has been added to Appendix K.
- AP1-134 The clarification regarding surveys has been added to Appendix K.
- AP1-135 The clarification regarding surveys has been added to Appendix K.
- AP1-136 The clarification regarding surveys has been added to Appendix K.
- AP1-137 The clarification regarding surveys has been added to Appendix K.

Pacific Connector Gas Pipeline - Comments on DEIS			
Comment No.	DEIS Section & Page No.	DEIS Language	Pacific Connector Comment
138	Appendix K Section 1.5.3 1-11 Mollusks - 1	Surveys for Category A and E mollusks from the 2004 list	Revise: Surveys for special-status mollusk, including Category A and B S&M mollusks.... (delete 2004 list)
139	Appendix K Section 1.5. 1-113 Mollusks - 1	The surveys were conducted within 100 feet on either side of the PCGP Project corridor in accordance with the Survey Protocol for Survey and Manage Terrestrial Mollusk Species from the Northwest Forest Plan, Version 3.0 (Duncan et al. 2003).	Add: "The surveys were conducted 'generally' within 100 feet either side...." Also, revise: "either side of the habitat removal"
140	Appendix K 1-25 Table Intro - 1	Table Intro 1: Fifth Field Watersheds and Land Allocations Crossed by the PCGP on BLM and NFS Lands	Would be important to note that this table identifies all habitat on BLM and Forest Service lands, not just late successional / old-growth forest that S&M species are or are expected to be associated with.
141	Appendix K (All species)	Across the project area, the PCGP Project would remove an estimated 1,070 acres of coniferous and mixed hardwood-coniferous forests below 6,000 feet msl, including 220 acres of LSCG forests and similar statements with varying factors for S&M species	Pacific Connector requests clarification of these acreages. It is not clear if they represent federal land only, or federal and non-federal lands? The reference to forest effects with respect to S&M species only are pertinent to federal lands.
142	Appendix K (All species)	A permanent unforested corridor would remain across the project area, resulting in a permanent loss of about 230 acres of coniferous and mixed hardwood-coniferous forests below 6,000 feet msl. And similar statements	Note that the permanent unforested corridor would be associated with the 30-foot wide riparian buffer. The riparian buffer would be revegetated with native species including shrubs and trees less than 6 feet tall.

18

AP1 Continued, page 19 of 48

- AP1-138 The clarification regarding surveys has been added to Appendix K.
- AP1-139 The clarification regarding surveys has been added to Appendix K.
- AP1-140 Table INTRO-1 does not depict habitat acreages for S&M species; it is simply a table showing the amount of land in the project area in each watershed under each land allocation type.
- AP1-141 As noted in each species section in the reference to Figure 2 (Distribution of Forests That May Provide Habitat For Species) and Table 4 (Extent of Forests that Could Provide Habitat for Species on BLM and NFS Lands), all forest type calculations are limited to BLM and NFS lands.
- AP1-142 Comment noted.

Pacific Connector Gas Pipeline - Comments on DEIS		DEIS Language	Pacific Connector Comment
Comment No.	DEIS Section & Page No.		
143	Appendix K Conclusion (All species)	The applicant shall prepare and implement a monitoring plan that describes specific protocols to monitor the species and adjacent habitat near affected sites over the long term, as specified by the agency responsible for management of the sites. The monitoring plan shall be approved by the BLM and Forest Service	For each S&M species analyzed in Appendix K, the "Conclusion" states that Pacific Connector should prepare and implement a monitoring plan for S&M species and adjacent habitat near affected sites. Pacific Connector does not agree that a monitoring plan is necessary for all S&M species in the analysis area, especially S&M species that the BLM and Forest Service have previously determined to be previously documented, or are relatively common across the NSO range, and state in the conclusions that the PCGP Project would not affect the persistence of the species. This applies to 49 fungi, 1 bryophyte, 13 lichens, 3 vascular plants, 1 mollusk, and 2 vertebrate species discussed in Appendix K. Pacific Connector concurs that a monitoring plan should be prepared for nine (9) S&M species (6 fungi, 1 mollusk) for which Appendix K indicates the persistence of the species could be affected by the PCGP Project, including the three (3) fungi species Pacific Connector needed to avoid. Additionally, the Forest Service (Wes Yamamoto) indicated in a conference call on November 21, 2014 that the Forest Service and BLM would prepare monitoring plans for the S&M species included in the analyses. FERC should clarify if BLM and Forest Service are preparing the monitoring plan, or if Pacific Connector is expected to prepare monitoring plans with agency approval.
144	Appendix K 2-87 Conclusion	The segment of the construction corridor, along with associated TEWAs and UCSAs, should be shifted at least 125 feet (40 meters) to the north of the currently proposed alignment, such that the southern edge of the work area is shifted outside the site boundary (see Figure CHAL-4). The nearest edge of the corridor, TEWA, or UCSA should be entirely outside of the site (the large red circle depicted in Figure CHAL-4), providing a no-disturbance buffer of at least 50 meters between the C. alveolatus observation point (centroid of site) and the outside edge of disturbance caused by clearing and construction activities.	Pacific Connector has consulted with Forest Service and incorporated a minor alignment modification that would be farther than 60 meters from the site (see Figure 3 in Attachment 3 of Pacific Connector's January 19, 2015 filing).
145	Appendix K 2-253 Conclusion	The segment of the construction corridor, along with associated TEWAs and UCSAs, should be shifted at least 125 feet (40 meters) to the north of the currently proposed alignment, such that most of the work area is shifted outside the site boundary (see Figure GYAB-4 for reference). The nearest edge of the corridor should be entirely outside of the site (the large red circle depicted in Figure GYAB-4). A no-disturbance buffer of at least 60 meters should be provided between the G. abellii observation point (centroid of site) and the outside edge of disturbance caused by clearing and construction activities.	Pacific Connector has consulted with Forest Service and incorporated a minor alignment modification that would be farther than 60 meters from GYAB (see Figure 1 in Attachment 3 of Pacific Connector's January 19, 2015 filing).

AP1 Continued, page 20 of 48

- AP1-143 To clarify, the BLM and Forest Service will prepare the monitoring plan and be responsible for implementing it. The statements in the S&M report have been updated to clarify this.
- AP1-144 The alignment modification is acknowledged; additional analysis will be conducted and Appendix K will be revised after the surveys are complete.
- AP1-145 The alignment modification is acknowledged; additional analysis will be conducted and Appendix K will be revised after the surveys are complete.

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment	
Comment No.	DEIS Section & Page No.	DEIS Language		
146	Appendix K 2-443 Conclusion	The segment of the construction corridor, along with associated TEVAs and UCSAs, should be moved at least 165 feet (50 meters) to the south of the currently proposed alignment, such that the northern edge of the work area is shifted outside the site boundary (see Figure SEPJ-4 for reference). The nearest edge of the corridor, TEVA, or UCSA should be outside the site boundary. The applicant shall prepare and implement a monitoring plan that describes specific protocols to monitor the species and adjacent habitat near the affected site over the long term (or until the species is removed from the S&M list), as specified by the agency responsible for management of the site.	This recommendation is different than what is presented in the DEIS (page 4-498), which indicates a 60-meter "no-disturbance" buffer for this species. Please change Appendix K to match DEIS recommendation. Pacific Connector has consulted with Forest Service and incorporated a minor alignment modification that would be farther than 60 meters from SEPJ-4 (see Figure 2 in Attachment 3 of Pacific Connectors January 19, 2015 filing).	AP-146
147	Appendix K 6-11	Discussion	Suggested addition: Prior to timber clearing and construction, Pacific Connector would survey the vicinity where D. hesperium were documented and remove live D. hesperium, if observed, from areas of proposed disturbance. This would avoid direct effects to this species and likely contribute to the continued persistence of the site(s) documented in the Project area.	AP-147
148	Appendix K 6-13 Conclusion	The applicant shall prepare and implement a monitoring plan that describes specific protocols to monitor the species and adjacent habitat near the affected site over the long term (or until the species is removed from the S&M list), as specified by the agency responsible for management of the site.	The phrase included with this monitoring plan recommendation "or until the species is removed from the S&M list" should be included for all species.	AP-148
149	Appendix K 6-23 Conclusion	Discussion	Suggested addition: Prior to timber clearing and construction, Pacific Connector would survey the vicinity where M. chaceana were documented and remove live M. chaceana, if observed, from areas of proposed disturbance. This would avoid direct effects to this species and likely contribute to the continued persistence of the site(s) documented in the Project area.	AP-149
150	Appendix K 7-23 GGO	Activities within the corridor and TEVAs would result in extensive noise disturbance during vegetation clearing, grading, and pipeline installation. These activities would take place within a 0.25-mile radius of three of the sites, and although they would be more than 300 feet away from the nest sites, disturbance during the nesting season could result in nest abandonment and loss of young.	No disturbance activities would occur within 0.25 mile of known active GGO nest sites during the breeding season; these activities would have no effect on great gray owl. Please refer to the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.	AP-150
151	Appendix K 7-24 Conclusion	Summary/Conclusion	Summary and conclusion does not consider application of management recommendations, such as no removal of known nest, and application of seasonal timing restrictions (0.25 mile from active nest site from March 1 - July 31).	AP-151
152	Appendix L General	timber clearing and construction dates listed out as 2016 and 2017	Because Pacific Connector is following prescribed management requirements for this species, subsequent monitoring of this species at known sites does not seem necessary.	AP-152
153	Appendix L Page 4, Line Number 30	Between 2010 and 2012, Pacific Connector completed surveys for Survey and Manage species	Revise MIS to remove discussion of specific years of construction and/or timber removal. Please revise to: Between 2007 and 2014, Pacific Connector.....	AP-153

AP1 Continued, page 21 of 48

- AP1-146 The alignment modification is acknowledged; additional analysis will be conducted and Appendix K will be revised after the surveys are complete.
- AP1-147 Comment noted. This recommendation is not consistent with the agencies' management recommendations.
- AP1-148 The BLM and Forest Service will be preparing the monitoring plan and will include relevant language for timing of the monitoring.
- AP1-149 Comment noted. This recommendation is not consistent with the agencies' management recommendations.
- AP1-150 The applicant should add these recommendations to Appendix B of the Plan of Development and cite references to support the adequacy of the recommendation for avoiding disturbance to GGO. Pending this no change to the EIS has been made.
- AP1-151 Effectiveness monitoring is required. Monitoring plans will be developed consistent with the response to comment AP1-109.
- AP1-152 Appendix M, Management Indicator Species Report, has been updated as requested.
- AP1-153 Text revised.

Comment No.	DEIS Section & Page No.	DEIS Language	Pacific Connector Comment	
154	Appendix L Pages 4.1, 5 Reggie River, Winema	Forest service determined minor reroutes "inadequate"	Pacific Connector made initial reroutes based on Forest Service recommendations (60 to 100 feet from brown silt); subsequently, Forest Service determined that these species should be avoided by more than 100 feet and requested Pacific Connector to alter the siltline and eliminate survey lines in those areas shown in Pacific Connector's February 19, 2015 final DEIS. DEIS Recommendations #18 and #26, minor modifications have been incorporated to sufficiently avoid these species.	AP-154
155	Appendix L Page 6.2.2.1 Line Numbers 2-4	Timber removal, pipeline construction and blasting, or helicopter activity would be avoided within 0.25 miles of an NSO activity center between March 1 and July 15 and would be limited to roosting birds and maternity colonies in those areas (approximately 30 percent of route, see Appendix N and P of the BA)	This language is inaccurate. Timber removal would not occur within 0.25 mile of a NSO activity center during the entire breeding season (March 1 - September 30). Additionally, the new schedule (see draft Migratory Bird Conservation Plan provided as Response to DEIS Recommendation #14, filed on February 13, 2015) identifies all timber to be removed outside of the core migratory bird breeding season (April 1 - July 15). Construction activities would be limited to the entire breeding season (March 1 through July 15). Please refer to the response to Comment 16 (Section 2.4.2.1, Page 2-105) and Attachment B for seasonal timing restrictions for the Project's timber felling, logging, clearing, and construction activities.	AP-155
156	Appendix L Section 6.2.2.1 Page 16	Red-necked grebe	Where this information occurs in the BE, it should be updated. Note that no red-necked grebes have been recorded on BBS routes within 50 miles of the PCGP project in BCR 5 or BCR 9 during the past 20 years.	AP-156
157	Appendix L Section 6.2.2.2 Page 179	Horned grebe	Note that no horned grebes have been recorded on BBS routes within 50 miles of the PCGP project in BCR 5 during the past 20 years only 2 horned grebes were recorded on routes in BCR 9 during the past 20 years.	AP-157
158	Appendix L Section 6.2.2.3 Page 82	American white pelican	Note that only 3 white pelicans have been recorded on BBS routes within 50 miles of the PCGP project in BCR 5 during the past 20 years but an average of 47 per year were recorded on routes in BCR 9 during the past 20 years.	AP-158
159	Appendix L Section 6.2.2.4 Page 87	Harlequin duck	Note that no harlequin ducks have been recorded on BBS routes within 50 miles of the PCGP project in BCR 5 or BCR 9 during the past 20 years.	AP-159
160	Appendix L Section 6.2.2.5 Page 89	Bufflehead	Note that no buffleheads have been recorded on BBS routes within 50 miles of the PCGP project in BCR 5 during the past 20 years but an average of 2 per year were recorded on routes in BCR 9 during the past 20 years.	AP-160
161	Appendix L Section 6.2.2.6 Page 92	Upland sandpiper	Note that no upland sandpipers have been recorded on BBS routes within 50 miles of the PCGP project in BCR 5 or BCR 9 during the past 20 years.	AP-161
162	Appendix L Section 6.2.2.7 Page 95	Bald eagle	Note that BBS data (Gauer et al., 2014) indicate significant increasing trends in bald eagle populations in BCR 5 and BCR 9 (see Table 3.4.2 in Draft Migratory Bird Conservation Plan)	AP-162

21

AP1 Continued, page 22 of 48

AP1-154	Text revised to reflect that the reroutes filed by Pacific Connector on January 19, 2015 comply with Forest Service requirements.
AP1-155	Text has been updated to reflect the timing restrictions and schedule filed on filed on February 13, 2015.
AP1-156	Text revised.
AP1-157	Text revised.
AP1-158	Text revised.
AP1-159	Text revised.
AP1-160	Text revised.
AP1-161	Text revised.
AP1-162	Text revised.

Pacific Connector Gas Pipeline - Comments on DEIS			Pacific Connector Comment
Comment No.	DEIS Section & Page No.	DEIS Language	
163	Appendix L Section 6.2.2.8 Page 99	Peregrine falcon	Note that BBS data (Sauer et al., 2014) indicate significant increasing trends for peregrine falcon populations in BCR 5 and BCR 9 (see Table 3.4-2 in Draft Migratory Bird Conservation Plan)
164	Appendix L Section 6.2.2.9 Page 101	White-headed woodpecker	Note that Partners in Flight (2013) estimates 4,000 in BCR 5 and 36,000 in BCR 9
165	Appendix L Section 6.2.2.10 Page 105	Lewis' woodpecker	BBS data within 50 miles from the pipeline in BCR 3 indicate Lewis' woodpeckers have been increasing locally (see Table 3.4-2 in Draft Migratory Bird Conservation Plan). Note that Partners in Flight (2013) estimates 30,000 in BCR 9
166	Appendix L Section 6.2.2.11 Page 109	Purple Martin population	Note that Partners in Flight (2013) estimates 18,000 in BCR 5 but only 50 in BCR 9
167	Appendix L Section 6.2.2.12 Page 112	Tricolored Blackbird population	Note that Partners in Flight (2013) has not estimated the tricolored blackbird population in Bird Conservation Region 9
168	Appendix L Table 40 Page 166	Wrong table title	Table title should be "Coronis Military Habitat Associations"
169	Appendix O Table O-3	Federal Status	Add "Candidate" status to Federal. (because of Red Tree Vole)

22

AP1 Continued, page 23 of 48

AP1-163	Text revised.
AP1-164	Text revised.
AP1-165	Text revised.
AP1-166	Text revised.
AP1-167	Text revised.
AP1-168	Table title updated.
AP1-169	"Candidate" is already included as a federal status. Note that only the North Oregon Coast distinct population segment of red tree vole is a federal candidate, so the population crossed by the Project does not have a federal (FWS) status. (http://www.fws.gov/oregonfwo/Species/Data/RedTreeVole/)

Attachment A
DEIS Mitigation Comparison

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Note: Comparison of numbers in Appendix F Attachments 1 (BLM) and 2 (FS), and Section 3 Tables (BLM) and Section 4 Tables (FS) with Table 2.1.4-2. Electronic (pdf) provides notes, which are not printed on the hard copy.

Project

Specific Off-Site Mitigation Projects on BLM and NFS Lands

Table 2.1.4-2 describes the individual mitigation projects related to LMP objectives on BLM and NFS lands that are included in the proposed action. These projects would be implemented by the BLM and Forest Service as a subsequent phase of the Pacific Connector Pipeline Project with funding provided by the applicant. The applicant is also responsible for providing funding to BLM and the Forest Service for planning efforts related to these mitigation actions.

TABLE 2.1.4-2 Mitigation Projects to Address LMP Actions					
Unit	Watershed	Mitigation Group	Project Type	Quantity	Unit
Cools Bay BLM	East Fork Coquille River	Reallocation of Matrix Lands to LSR and Non-Federal Land Acquisition	Land Re-Allocation from Matrix to LSR	120 acres in Appx F BLM Attachment 1, but matches Appx F Section 3 Table 3-2a (p.20)	acres
			LWD in-stream	Yankee Run In-stream Large Wood Placement	2.8 miles
			Fire suppression	Fire Suppression	2 ea
			Road Sediment Reduction	Road Surfacing	0.9 miles
			Road Sediment Reduction	Road Surfacing	2.6 miles
			Road Sediment Reduction	Road Surfacing	2.0 miles
			Road Sediment Reduction	Road Surfacing	2.0 miles
			Road Sediment Reduction	Road Surfacing	2.0 miles
			Road Sediment Reduction	Road Surfacing	2.0 miles
			Road Sediment Reduction	Road Surfacing	2.0 miles
Middle Fork Coquille River	Middle Fork Coquille River	Reallocation of Matrix Lands to LSR and Non-Federal Land Acquisition	Land Re-Allocation from Matrix to LSR	330 acres in Appx F BLM Attachment 1, but matches Appx F Section 3 Table 3-3a (p.24)	acres
			LWD in-stream	Upper Rock Creek In-stream LWD	2.1 miles
			Fire suppression	Fire Suppression	1 ea
			Road Sediment Reduction	Road Surfacing	0.9 miles
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
North Fork Coquille River	North Fork Coquille River	Reallocation of Matrix Lands to LSR and Non-Federal Land Acquisition	Land Re-Allocation from Matrix to LSR	330 acres in Appx F BLM Attachment 1, but matches Appx F Section 3 Table 3-3a (p.24)	acres
			LWD in-stream	Upper North Fork Coquille In-stream LWD	2.2 miles
			Fire suppression	Fire Suppression	1 ea
			Road Sediment Reduction	Road Surfacing	0.9 miles
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
Roseburg BLM	Clarks Branch South Umpqua	Reallocation of Matrix Lands to LSR and Non-Federal Land Acquisition	Land Re-Allocation from Matrix to LSR	330 acres in Appx F BLM Attachment 1, but matches Appx F Section 3 Table 3-3a (p.24)	acres
			LWD in-stream	Upper North Fork Coquille In-stream LWD	2.2 miles
			Fire suppression	Fire Suppression	1 ea
			Road Sediment Reduction	Road Surfacing	0.9 miles
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
Days Creek - South Umpqua	Days Creek - South Umpqua	Reallocation of Matrix Lands to LSR and Non-Federal Land Acquisition	Land Re-Allocation from Matrix to LSR	330 acres in Appx F BLM Attachment 1, but matches Appx F Section 3 Table 3-3a (p.24)	acres
			LWD in-stream	Upper North Fork Coquille In-stream LWD	2.2 miles
			Fire suppression	Fire Suppression	1 ea
			Road Sediment Reduction	Road Surfacing	0.9 miles
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea
			Road Sediment Reduction	Road Surfacing	2 ea

AP-170

AP-171

AP1 Continued, page 25 of 48

AP1-170 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-171 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

AP1 Continued, page 26 of 48

Draft EIS

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

TABLE 2.14-2

Mitigation Projects to Address LMP Amendments on BLM and NFS Lands

Unit	Watershed	Mitigation Group	Project Type	Project Name	Quantity a/	Unit
Medford BLM	Days Creek - South Umpqua (1710030205), Myrtle Creek (1710030211), and Clarks Branch - South Umpqua (1710030210)	Fire Suppression	Suppression Capacity	Dry Hydrants	6	sites
		Aquatic and Riparian Habitat	Fish Passage	Loveseat Creek Culvert Removal	1	project
		Aquatic and Riparian Habitat	LWD in-stream	Middle Fork Coquille In-stream LWD Placement	0.6	miles
		Aquatic and Riparian Habitat	LWD in-stream	Twelvemile Creek Instream LWD	2.0	miles
		Road Sediment Reduction	Road Drainage and Surface Enhancement	Camas Mountain Road Drainage and Surface Enhancement	3.5	miles
	Myrtle Creek	Aquatic and Riparian Habitat	Fish Passage	Slide Creek Culvert Replacement	1	project
		Road Sediment Reduction	Road Drainage and Surface Enhancement	Ben Branch Road Drainage and Surface Enhancement	1.0	miles
		Road Sediment Reduction	Road Stabilization	South Myrtle Hill Slide Repair	1	project
	Olatia-Looking Glass	Acquisition	Land Re-Allocation from Matrix to LSR, Non-Federal Land Acquisition	RMP Amendment BLM-3, LSR Reallocation and Land Acquisition	409	acres
		Aquatic and Riparian Habitat	LWD in-stream	Olatia Creek In-stream LWD	1.2	miles
	Big Butte Creek	Road Sediment Reduction	Road Stabilization	Olatia Tie Road Renovation	1	project
	Little Butte Creek	Fire suppression	Fire Suppression	Big Butte Creek Pump Chance	1	sites
		Road Sediment Reduction	Road storm-proofing	Big Butte Creek Road Storm- proofing	6.4	miles
		Terrestrial Habitat Improvement	Habitat Planting	Big Butte Creek Fritillaria Habitat	600	acres
		Aquatic and Riparian Habitat	Fish Passage	Little Butte Creek Fish Screen	1	site
		Aquatic and Riparian Habitat	LWD in-stream	Lost Creek In-stream LWD	8.6	miles
		Fire suppression	Fire Suppression	Little Butte Creek Pump Chance	8	sites
		Road Sediment Reduction	Road Drainage and Surface Enhancement	Little Butte Creek Road Improvement	3.6	miles
		Road Sediment Reduction	Road Decommissioning	Little Butte Creek Road Decommissioning Ashland Resource Area	10.6	miles
		Road Sediment Reduction	Road Decommissioning	Little Butte Creek Road Decommissioning Butte Falls RA	2.4	miles
		Road Sediment Reduction	Road Surfacing	Little Butte Creek Road Resurfacing Ashland Resource Area	9.0	miles
Shady Cove- Rogue River	Road Sediment Reduction	Road Surfacing	Road Surfacing	Little Butte Cr. Road Resurfacing, Butte Falls Resource Area	9.4	miles
		Aquatic and Riparian Habitat	LWD in-stream	Shady Cove LWD	2.5	miles
		Road Sediment Reduction	Road Drainage and Surface Enhancement	Shady Cove Road Improvement	1.0	mile
	Road Sediment Reduction	Road Surfacing	Road Surfacing	Shady Cove Road Resurface	1.5	miles
	Stand Density Fuel Break	Fuels Reduction	Fuels Reduction	Shady Cove Fuel Hazard Reduction	866	acres
	Stand Density Fuel Break	Fuels Reduction	Fuels Reduction	Shady Cove Fuel Hazard Maintenance	866	acres

2.0 - Description of the Proposed Action

2-68

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

AP1 Continued, page 27 of 48

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

TABLE 2.14-2

Mitigation Projects to Address LMP Amendments on BLM and NFS Lands

Unit	Watershed	Mitigation Group	Project Type	Project Name	Quantity a/	Unit
Trail Creek	Trail Creek	Aquatic and Riparian Habitat	LWD in-stream	Trail Creek LWD	2.6	miles
		Fire suppression	Suppression Capacity	Trail Creek Pump Chance	8	sites
		Road Sediment Reduction	Road storm-proofing	Trail Creek Road Storm-proofing	4.3	miles
		Road Sediment Reduction	Road Decommissioning	Trail Creek Road Decommissioning	2.7	miles
		Road Sediment Reduction	Road Surfacing	Trail Creek Road Resurface	16.3	miles
		Stand Density Fuel Break	Fuels Reduction	Trail Creek Fuel Hazard Reduction	687	acres
		Stand Density Fuel Break	Fuels Reduction	Trail Creek Fuels Hazard Maintenance	687	acres
		Riparian Stand Density	Riparian Vegetation	Upper Spencer Creek LSR/Riparian treatment	3.0	miles
		Riparian Stand Density	Riparian Vegetation	Miners Creek LSR, Riparian Treatment	3.0	miles
		Riparian Stand Density	Riparian Vegetation	Tributary Creek Riparian Thinning	70	acres
Lakeview DLM	Spencer Creek	Road Sediment Reduction	Road Drainage – Culvert Replacement	Keno Access Road Repair and Culvert Replacement	1	site
		Road Sediment Reduction	Road Drainage	Spencer Creek Drainage Improvements and Sediment Trap Removal	15	sites
		Road Sediment Reduction	Road Closure	Spencer Creek Repair Existing Road Closure	12	sites
		Terrestrial Habitat Improvement	Stand Density Habitat	Upper Spencer Creek LSR Density Management	270	acres
		Road sediment reduction	Road Closure	Days Creek -South Umpqua Road Closure	0.5	miles
		Stand Density Fuel Break	Fuels Reduction	Days Creek - South Umpqua Matrix Integrated Fuels Reduction	150	acres
		Stand Density Fuel Break	Fuels Reduction	Days Creek - South Umpqua LSR Integrated Fuels Reduction	232	acres
		Stand Density Fuel Break	Pre-commercial Thinning	Days Creek - South Umpqua LSR Pre-commercial Thinning	53	acres
		Stand Density Fuel Break	Under-burn	Days Creek - South Umpqua LSR Under-burn	125	Acres
		Stand Density Fuel Break	Under-burn	Days Creek - South Umpqua Matrix Under-burn	102	acres
Umpqua National Forest	Days Creek - South Umpqua	Terrestrial Habitat Improvement	Snag Creation	Days Creek - South Umpqua LSR Snag Creation	32	acres
		Terrestrial Habitat Improvement	Snag Creation	Days Creek - South Umpqua Snag Creation	16	acres
		Aquatic and Riparian Habitat	Fish Passage	Elk Creek Fish Passage Culverts	3	sites
		Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	1.8	miles
		Road sediment reduction	Road Closure	Elk Creek Road Closure	2.8	miles
		Road sediment reduction	Road Decommissioning	Elk Cr. Road Decommissioning	2.8	miles
		Stand Density Fuel Break	Fuels Reduction	Elk Creek LSR Integrated fuels	697	acres
		Stand Density Fuel Break	Fuels Reduction	Elk Creek Matrix Integrated Fuels Reduction	170	acres
		Stand Density Fuel Break	Pre-commercial Thinning	Elk Creek LSR Pre-commercial thinning	368	acres
		Stand Density Fuel Break	Under-burn	Elk Creek LSR Under-burn	472	acres
Elk Creek - South Umpqua	Elk Creek - South Umpqua	Stand Density Fuel Break	Under-burn	Elk Creek Matrix Under-burn	115	acres

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Draft EIS Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

TABLE 2.1.4-2
Mitigation Projects to Address LMP Amendments

102 acres in Appx F
Table 4-2a (p.73)

Duplicate - listed twice. Only one listing in Appx F Table 4-2a (p.73)

Unit	Watershed	Mitigation Group	Project Type	Quantity	Unit
		Terrestrial Habitat Improvement	LWD Upland Placement	103	acres
		Terrestrial Habitat Improvement	Meadow Restoration	106	acres
		Terrestrial Habitat Improvement	Noxious Weed Treatment	6.7	miles
		Terrestrial Habitat Improvement	Snag Creation	66	acres
		Terrestrial Habitat Improvement	Snag Creation	66	acres
		Terrestrial Habitat Improvement	Snag Creation	13	acres
	Trail Creek	Road sediment reduction	Road Decommissioning	1.1	miles
	Trail Creek	Road sediment reduction	Road Storm-proofing	0.5	miles
	Trail Creek	Stand Density Fuel Break	Fuels Reduction	414	acres
	Trail Creek	Stand Density Fuel Break	Under-burn	280	acres
	Trail Creek	Terrestrial Habitat Improvement	Snag Creation	109	acres
	Upper Cow Creek	Aquatic and Riparian Habitat	Fish Passage	4	sites
	Upper Cow Creek	Road sediment reduction	Road Closure	2.6	miles
	Upper Cow Creek	Road sediment reduction	Road Decommissioning	4.3	miles
	Upper Cow Creek	Stand Density Fuel Break	Fuels Reduction	972	acres
	Upper Cow Creek	Stand Density Fuel Break	Fuels Reduction	606	acres
	Upper Cow Creek	Stand Density Fuel Break	Integrated Fuels Reduction	531	acres
	Upper Cow Creek	Stand Density Fuel Break	Under-burn	410	acres
	Upper Cow Creek	Stand Density Fuel Break	Under-burn	410	acres
	Upper Cow Creek	Terrestrial Habitat Improvement	LWD Upland Placement	62	acres
	Upper Cow Creek	Terrestrial Habitat Improvement	Noxious Weed Treatment	21	acres
	Upper Cow Creek	Terrestrial Habitat Improvement	Snag Creation	91	acres
	Upper Cow Creek	Terrestrial Habitat Improvement	Snag Creation	14	acres
	Upper Cow Creek	Reallocation of Matrix Lands to LSR	Land Re-Allocation from Matrix to LSR	588	acres
	Rogue River National Forest	Aquatic and Riparian Habitat	LWD In-stream	1.5	mile
	Rogue River National Forest	Aquatic and Riparian Habitat	Stream Crossing Repair	32	sites
	Rogue River National Forest	Road sediment reduction	Road Decommissioning	53.2	miles
	Rogue River National Forest	Stand Density Fuel Break	Pre-commercial Thinning	618	acres
	Rogue River National Forest	Terrestrial Habitat Improvement	Habitat Planting	20	acres
	Rogue River National Forest	Terrestrial Habitat Improvement	LWD Upland Placement	306	acres

2.0 - Description of the Proposed Action

2-70

AP1 Continued, page 28 of 48

AP1-172 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-173 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

TABLE 2.14-2
Mitigation Projects to Address LMP Amendments on BLM and NFS Lands

Unit	Watershed	Mitigation Group	Project Type	Project Name	Quantity a/	Unit
Little Butte Creek		Terrestrial Habitat Improvement	Snag Creation	Little Butte Creek LSR Snag	622	acres
		Reallocation of Matrix Lands to LSR	Land Reallocation from Matrix to LSR	NE T-LSR	12	acres
Big Butte Creek		Reallocation of Matrix Lands to LSR	Land Reallocation from Matrix to LSR	LRMP Amendment RRNF 7, LSR 227 Reallocation	500	acres
		Aquatic and Riparian Habitat	Riparian Planting	Spencer Creek Riparian Planting	0.5	miles
Winema National Forest	Spencer Creek	Aquatic and Riparian Habitat	Fencing	Spencer Creek Fencing	6.4	miles
		Aquatic and Riparian Habitat	LWD In-stream	Spencer Creek In-stream LWD	1.0	miles
		Aquatic and Riparian Habitat	Stream Crossing Repair	Spencer Creek Ford Hardening and Interpretive Sign	1	sites
		Aquatic and Riparian Habitat	Stream Crossing Repair	Spencer Creek Stream Crossing	25	sites
		Road sediment reduction	Decommissioning	Spencer Creek Road Decommissioning	21.4	miles
		Visuals	Stand Density Reduction	Clover Creek Visual Management	114	acres

a/ Acres are rounded to the nearest whole acre and miles to the nearest tenth of a mile.

AP-174

AP1

Continued, page 29 of 48

AP1-174

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

2.1.5 Right-of-Way Grant to Cross Federal Lands

Pursuant to the Mineral Leasing Act of 1920 and in accordance with federal regulation 43 CFR Part 2880, the Pacific Connector Pipeline Project must secure a Right-of-Way Grant from the BLM to cross BLM, NFS, and Reclamation lands. Pacific Connector has applied to the BLM for a Right-of-Way Grant to cross federal lands. The BLM proposes to consider issuance of a Right-of-Way Grant that provides terms and conditions for construction and operation of the Pacific Connector Pipeline Project on federal lands in response to the proponent's application. Issuance of the Right-of-Way Grant must be in accordance with 43 CFR Parts 2800 and 2880 and relevant BLM manual and handbook direction. In making this decision, BLM would consider several factors including conformance with land use plans and impacts on resources and programs. Following adoption of this EIS and receipt of concurrence from the Forest Service and Reclamation, the BLM would issue a ROD that documents the decision whether to issue the Right-of-Way Grant.

This Right-of-Way Grant would be in addition to any authorization for the Project issued by the FERC. The Right-of-Way Grant, if approved, would be authorized by issuance of a Temporary Use Permit for the pipeline clearing and construction, which would terminate upon completion of construction, and issuance of a Right-of-Way Grant for ongoing pipeline operations and maintenance for a 30-year term. The Temporary Use Permit contains the specific temporary construction and work areas necessary to build the Project. Once the Pacific Connector pipeline is constructed and in operation, the Right-of-Way Grant would be modified to reflect the final location of the project and the associated 50-foot-wide maintenance corridor plus any roads on federal lands or under federal easements that are necessary for operations.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

crossing by the BLM confirmed that stream temperatures are not likely to be affected by this crossing.

Off-site mitigation would further reduce pipeline project impacts. Logs generated in the corridor clearing process or otherwise provided by Pacific Connector would be used as LWD placed at 80 pieces/mile in 3.7 miles of in-stream projects to restore aquatic habitats on the watershed. Road surfacing at the bridge approach on Woodward and Alder Creek Roads would greatly reduce transport of sediments to nearby aquatic habitats. These off-site mitigation measures proposed for BLM lands would supplement on-site minimization, mitigation, and restoration actions. Mitigations associated with the pipeline project are responsive to watershed analysis recommendations and would improve watershed conditions where they are applied (appendix J, section 2.3.5.6). Table 4.1.3.5-6 describes proposed off-site mitigations in the North Fork Coquille River watershed.

TABLE 4.1.3.5-6 Proposed Off-site Mitigation Projects for North Fork Coquille River Watershed				
Project Type	Mitigation Group	Project Name	Qty.	Project Rationale
LWD Instream Placement	Aquatic Habitat	Steinnon Creek Instream Large Wood Placement	1.5 miles	Lack of recruitment of LWD into channels is a consistent factor limiting aquatic habitat quality in watersheds crossed by the PCGP. Implementation of the project would result in the removal of a small amount of LWD from the Riparian Reserves associated with intermittent and perennial channels. The removal of trees within and adjacent to the channel will reduce future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the Reserves would offset both the short-term and long-term loss of LWD recruitment to these areas, thereby ensuring that the project would result in placement of almost 300 pieces of LWD into 7 miles of channels.
LWD Instream Placement	Aquatic Habitat	Upper North Fork Coquille River Instream Large Wood Placement	2.2 miles	Lack of recruitment of LWD into channels is a consistent factor limiting aquatic habitat quality in watersheds crossed by the PCGP. Implementation of the project would result in the removal of a small amount of LWD from the Riparian Reserves associated with intermittent and perennial channels. The removal of trees within and adjacent to the channel will reduce future recruitment of LWD into the channel and associated Riparian Reserves. Placing LWD at key locations within the Reserves would offset both the short-term and long-term loss of LWD recruitment to these areas, thereby ensuring that the project would result in placement of almost 300 pieces of LWD into 7 miles of channels.
Road Surfacing	Road Sediment Reduction	Bridge Approach Paving – Woodward & Alder Creek Roads	1 site	Road-related sediment has negatively affected the North Fork Coquille River watershed. While Best Management Practices will be implemented, construction of the PCGP will likely cause some sediment to reach channels and potentially impact the aquatic habitat. Surfacing the approaches to the Woodward Creek and Alder Creek bridges would reduce, if not eliminate, sediment input to aquatic habitat for anadromous and resident salmonids underneath and adjacent to these bridges.

AP-175

Proposed amendments of the Coos Bay RMP to waive protection measures for S&M species and to cross MAMU habitat in this watershed would not prevent attainment of ACS objectives (section 2.3.4.5) because the project does not threaten the persistence of any riparian-dependent species. All relevant Project impacts are within the range of natural variability for watersheds in the Coast Range Province (Appendix J, section 2.3.5.4). No project impacts have been identified that would prevent attainment of ACS objectives (Appendix J, section 2.3.4.8).

East Fork Coquille River Watershed

Project Impacts by ACS Objectives

Table 4.1.3.5-7 compares the Pacific Connector pipeline impacts to the objectives of the ACS for the East Fork Coquille River watershed. There are two intermittent stream channels in the East Fork Coquille River watershed that would be crossed by the pipeline (appendix J, table 2.3.6.1-4). These crossings are approximately 5 miles apart in separate subwatersheds, so the potential

4-97

4.1 – Land Use

AP1

Continued, page 30 of 48

AP1-175

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

AP1 Continued, page 31 of 48

Draft EIS Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Off-site mitigation would further offset pipeline project impacts in the watershed. Logs generated in the corridor clearing process or otherwise provided by Pacific Connector would be used as LWD placed at 80 pieces/mile in 2.8 miles of instream projects to restore aquatic habitats. Approximately 5.5 miles of road surfacing projects in the South Fork of Elk Creek and Yankee Run Creek would greatly reduce transport of sediments to nearby aquatic habitats. Reallocation of approximately 409 acres of Matrix lands to LSR would provide additional aquatic protections to streams that are within the reallocation area. These off-site mitigation measures identified by BLM would supplement on-site minimization, mitigation, and restoration actions. Mitigations associated with the pipeline project are responsive to watershed analysis recommendations and would improve watershed conditions where they are applied (appendix J, section 2.3.6.7). Table 4.1.3.5-8 describes proposed off-site mitigation measures in the East Fork Coquille River Watershed.

TABLE 4.1.3.5-8 Proposed Off-site Mitigation Measures in the East Fork Coquille River Watershed				
Project Type	Mitigation Group	Project Name	Qty.	Project Rationale
Road Surfacing	Road Sediment Reduction	Road Surfacing – South Fork Elk Creek	2.6 miles	Road-related sediment has negatively affected the East Fork Coquille. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.
Road Surfacing	Road Sediment Reduction	Road Surfacing – Yankee Run Mainline	2.0 miles	Surfacing the BLM road that is parallel to the South Fork Elk Creek would reduce if not eliminate sediment input to adjacent Chinook, coho, steelhead, and cutthroat habitat.
Road Surfacing	Road Sediment Reduction	Road Surfacing – Yankee Run Spurs	0.9 miles	Surfacing the BLM road that is parallel to Yankee Run Creek would reduce if not eliminate road-related sediment input to coho, steelhead, and cutthroat habitat.
LWD Instream	Aquatic Habitat	Yankee Run In-stream Large Wood Placement	2.75 miles	Lack of large woody debris (LWD) and recruitment of LWD into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the pipeline project. Implementation of the pipeline project would result in the removal of large woody debris from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term effects from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of Aquatic Conservation Strategy (ACS) objectives.
Fire Suppression	Fire Suppression	Helipond Construction	2 sites	High intensity fire has been identified as the single factor most impacting late-successional and old-growth (LSOG) forest habitats on federal lands in the area of the Northwest Forest Plan (NWFP). Construction of the pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity, however the corridor also provides a fuel break. Within the East/Middle Fork subwatersheds, there is an 18+ mile gap between helicopter accessible waterholes. Quick response time is imperative for successful control in wildfire situations during initial attack. Most water sources in this area are low in the drainage and accessible only by truck. Heliponds at these locations would enable a 2-3 mile radius for aerial application. Fire control is necessary to protect LSRs and endangered species habitat should a wildfire occur.

20150213-5184 FERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

TABLE 4.1.3.5-8
Proposed Off-site Mitigation Measures in the East Fork Coquille River Watershed

Project Type	Mitigation Group	Project Name	Qty.	Project Rationale
Land Re- Allocation from Matrix to LSR	Acquisition	LSR Reallocation & Land Acquisition	409 acres	The action contributes to the "neutral to beneficial" standard for new components in mapped and unmapped Late Successional Reserves (LSRs) by adding acres to the LSR land allocation to offset the long-term loss of habitat due to the construction and operation of the pipeline project. The action also compensates for the removal of occupied marbled murrelet habitat and suitable spotted owl habitat. In addition, the selected parcel reduces the potential edge effects caused by management of Matrix lands adjacent to occupied murrelet sites by relocating the entire parcel to LSR.
Non-Federal Land Acquisition		180 acres in 2.1.4-2, RMP Amendment BLM-4		

AP-176

The proposed Coos Bay RMP to waive protection measures for S&M species would not preclude attainment of ACS objectives because the Pacific Connector pipeline does not threaten the persistence of any riparian-dependent species. (appendix J, section 2.3.6.6). All relevant pipeline project impacts are within the range of natural variability for watersheds in the Coast Range Province (appendix J, section 2.3.6.3). No project impacts have been identified that would prevent attainment of ACS objectives (appendix J, section 2.3.6.8).

Middle Fork Coquille River Watershed

Project Impacts by ACS Objectives

Table 4.1.3.5-9 compares the Pacific Connector pipeline impacts to the objectives of the ACS for the Middle Fork Coquille River watershed. There are eight stream channel crossings, and seven locations where Riparian Reserves would be clipped by the construction clearing, but the stream channel would not be crossed by the pipeline trench. Approximately 14 acres of Riparian Reserves, or 0.06 percent of the Riparian Reserves in the watershed, would be cleared and 2 acres would be modified in UCSAs (appendix J, table 2.3.7.1-3). Stream channel intersections with the Pacific Connector pipeline corridor would occur in two separate subwatersheds approximately 10 miles apart (appendix J, figure 2.3.7.1-1). In the Big Creek subwatershed, six intermittent streams and one perennial stream would be crossed between MP 35.9 and MP 37.35; three of the intermittent stream crossings are associated with an existing road. Approximately 10 miles away in the Headwaters Middle Fork Coquille subwatershed, one perennial and one intermittent stream would be crossed. Watershed conditions and recommendations are described in the Middle Fork Coquille Watershed Analysis (BLM 1999a) and described in detail in appendix J of this EIS.

4-101

4.1 – Land Use

AP1

Continued, page 32 of 48

AP1-176

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

TABLE 4.1.3.5-10

Proposed Off-site Mitigation Measures in the Middle Fork Coquille River Watershed

Project Type	Mitigation Group	Project Name	Project Rationale	Quantity	Unit
Fish Passage	Fish Passage	Loveseat Creek culvert removal	Man-made barriers to fish passage have negatively affected access to habitat in the Middle Fork Coquille. The stream crossing is a fish barrier to resident fish. Removing the culvert and associated road fill will extend the availability of upstream habitat, mitigating for reductions in habitat quality on stream reaches crossed by the pipeline corridor. Sediment introductions to the stream network would also cease.	1	project
Land Re-Allocation from Matrix to LSR Non-Federal Land Acquisition	Acquisition	LSR Reallocation & Land Acquisition	This action contributes to the "neutral to beneficial" standard for new designations of LSRs by allocating to offset the construction of the Pacific Connector pipeline. The action also compensates for the removal of occupied marbled murrelet habitat and suitable roosting, nesting, and foraging habitat for northern spotted owls. In addition, the selected parcel reduces the potential edge effects caused by management of Matrix lands adjacent to occupied murrelet sites by reallocating the entire parcel to LSR.	207 acres in 2.1.4-2 and Amendment BLM-4	acres
LWD instream	Aquatic Habitat	Twelvemile Creek Large Wood and Boulder Placement	Lack of large wood and recruitment of large woody debris (LWD) into streams is a consistent factor limiting aquatic habitat quality in all watersheds crossed by the Pacific Connector pipeline. There are approximately 7.3 miles of corridor, 9 stream crossings. Implementation of the pipeline project would result in the removal of LWD from the Riparian Reserves associated with intermittent and perennial streams. The removal of vegetation within and adjacent to the channel will preclude future recruitment of large woody debris into the channel and associated Riparian Reserves. Placing LWD at key locations within the channel and associated Riparian Reserves would offset both the short-term and long-term effects from loss of LWD recruitment to Riparian Reserves and associated aquatic and riparian habitat and contributes to the accomplishment of Aquatic Conservation Strategy (ACS) objectives.	2	miles
LWD instream	Aquatic Habitat	Upper Rock Creek In-stream Large Wood Placement		2.1	miles
LWD instream	Aquatic Habitat	Middle Fork Coquille LWD Placement		0.6	miles
Road Drainage and Surface Enhancement	Road Sediment Reduction	Camas Mountain Road Drainage and Surface Enhancement	Road-related sediment and stream network extension from ditchlines have negatively affected the Middle Fork Coquille. There are approximately 7.3 miles of corridor and 9 stream crossings in the Middle Fork Coquille. Roads do not meet current best management practices and are a source of chronic sediment delivery to fish bearing streams. The 9.1 and 9.2 roads currently show signs of water rutting and stream network extension.	3.5	miles
Road Surfacing	Road Sediment Reduction	Road Surfacing - Fall Creek System	Stormproofing and blocking the road will reduce the potential for sediment-laden water to be carried off the road surface and into the ditch where it could be transmitted to the stream network. Surfacing the BLM road that is parallel to Fall Creek would reduce if not eliminate sediment input to coho, steelhead, and cutthroat habitat. Surfacing the bridge approach would reduce if not eliminate sediment input to coho, steelhead, and cutthroat habitat from this location.	0.9	miles
Road Surfacing	Road Sediment Reduction	Bridge Approach paving -Sandy & Jones Creek Roads		2	ea.

AP-177

proposed off-site mitigation measures in the Middle Fork Coquille River watershed. Proposed amendments of the Coos Bay RMP and the Roseburg District RMP to waive protection measures for S&M species would not prevent attainment of ACS objectives because the Pacific Connector pipeline does not threaten the persistence of any riparian-dependent species (appendix J, section

4-105

4.1 – Land Use

AP1

Continued, page 33 of 48

AP1-177

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

TABLE 4.1.3.5-11 Compliance of the Pacific Connector Pipeline Project with ACS Objectives, Olalla Creek–Lookingglass Creek Watershed	
ACS Objective	Project Impacts
Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, and appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse, woody debris sufficient to sustain physical complexity and stability.	The pipeline project would not affect species composition and structural diversity of Riparian Reserves in the Olalla-Lookingglass Creek watershed because no Riparian Reserves would be affected by the project.
Maintain and restore habitat to support well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species.	The pipeline project would not affect any riparian-dependent species on the Olalla-Lookingglass Creek watershed because no Riparian Reserves would be affected by the project.

Summary, Olalla-Lookingglass Creek Watershed

Given the location of the Pacific Connector pipeline corridor on BLM lands, the lack of intersections with waterbodies, and the absence of Riparian Reserve impacts, it is highly unlikely that pipeline construction and operation would negatively affect watershed conditions on BLM land in the Olalla-Lookingglass Creek watershed. No pipeline project impacts relevant to ACS objectives have been identified that are outside the current range of natural variability for the watershed (appendix J, section 2.4.3.4). Proposed amendments of the Roseburg District RMP to waive protection measures for S&M species would not prevent attainment of ACS objectives because the pipeline project does not threaten the persistence of any riparian-dependent species (appendix J, section 2.4.3.5). Mitigations associated with the Project are responsive to watershed analysis recommendations and would improve watershed conditions where they are applied (appendix J, section 2.4.3.6). Table 4.1.3.5-12 shows proposed off-site mitigations in the Olalla-Lookingglass watershed.

TABLE 4.1.3.5-12 Proposed Off-site Mitigation Projects for the Olalla-Lookingglass Watershed			
Project Type	Mitigation Group	Project Name	Project Rationale
Land Re-Allocation from Matrix to LSR Non-Federal Land Acquisition	Acquisition	LSR Reallocation and Land Acquisition	This mitigation contributes to the "neutral to beneficial" standard for new developments in LSRs by adding acres to the Late Successional Reserve allocation to offset the long-term loss of acres and related the construction and operation of the Pacific Connector also contributes to objectives of the Aquatic Conservation Strategy (ACS) by managing forests for late-successional stand conditions (Forest Service and BLM 1994b: B-12).
LWD instream	Aquatic Habitat	Olalla Creek Large Wood and Boulder Placement	Lack of large woody debris (LWD) and sources of recruitment of this LWD in many streams are major factors limiting aquatic habitat quality in the watershed. Implementation of the pipeline project would result in no removal of LWD or clearing of woody vegetation from Riparian Reserves. However, many stream reaches in the watershed are greatly lacking in LWD. Placing LWD and boulders at key locations along a 1.2-mile reach of the Olalla Creek channel and associated Riparian Reserves would help further ACS Objectives by adding approximately 96 pieces of LWD to the stream channel.
Road Stabilization	Road Sediment Reduction	Olalla Tie Road Renovation	Transport of road sediment to stream channels is a primary concern in the Olalla-Lookingglass watershed. Many existing roads do not meet current best management practices and serve as sources of chronic sediment delivery to fish bearing streams. General renovation of the Olalla Tie Road (e.g., resurfacing and drainage channel repair, along with stabilization of several landslides that cross the road) will reduce the delivery of road-related sediments to stream channels.

AP-178

AP1

Continued, page 34 of 48

AP1-178

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

Summary, Clark Branch-South Umpqua River Watershed

Given the location of the pipeline project corridor on BLM lands, the lack of intersections with waterbodies, and the absence of impacts on Riparian Reserve, it is highly unlikely that project construction and operation would prevent attainment of the ACS objectives in this watershed (appendix J, section 2.4.4.8). Proposed amendments of the Roseburg District RMP to waive protection measures for S&M species would not prevent attainment of ACS objectives because the pipeline project does not threaten the persistence of any riparian-dependent species (appendix J, section 2.4.3.5). No pipeline project impacts relevant to ACS objectives have been identified that are outside the current range of natural variability for the watershed (appendix J, section 2.4.4.4). Mitigations associated with the pipeline project are responsive to watershed analysis recommendations and would improve watershed conditions where they are applied (appendix J, section 2.4.4.6). Table 4.1.3.5-14 shows proposed off-site mitigations in the Clark Branch-South Umpqua River watershed.

TABLE 4.1.3.5-14
Proposed Off-site Mitigation Projects for Clark Branch-South Umpqua Watershed

Project Type	Mitigation Group	Project Name	Project Rationale
Fish Passage	Fish Passage	Rice Creek Culvert Replacements	2 made barriers to fish passage, such as culverts not designed for passage, malfunctioning and plugged culverts, have restricted access of fish populations to quality upland habitat in the Clark Branch-S. Umpqua watershed. If one of these small, old culverts were to plug up with debris, road fill might enter the stream network. Replacing these faulty culverts with well-designed crossing structures that allow passage of adult and juvenile salmonids through the stream crossing at a range of flows will extend the availability of upstream habitat. This contributes to reestablishing historic connectivity with habitat in the watershed.
Road Drainage	Road Sediment Reduction	East Fork Willis Creek Tributary Culvert Replacement	Sediment is one of the primary water quality problems identified in the Middle South Umpqua watershed assessment on the Clark Branch-S. Umpqua watershed. Analyses clearly indicated that the sediment-turbidity habitat indicator is at risk or more likely not functioning properly. This particular culvert on the East Fork of Willis Creek is old, undersized, shot-gunned, plugged with debris, and eroding the road fill. The culvert also has poor alignment with the stream at the outlet. Replacing the culvert with a properly sized one will reduce the risk of road fill failure.
Road Drainage	Road Sediment Reduction	Judd Creek Culvert Removal	This culvert is undersized and there is a large amount of road fill associated with it. Were the culvert to become plugged, fluxes of sediment to the channel and deposition downstream in fish bearing reaches could occur. Pulling the culvert and fill material and storm proofing the road would prevent such sediment dynamics. In addition, the road is blocked by a landslide just beyond. Access to the stream crossing is gradually being lost due to soil slumping and vegetation growth. Implementing this project also means that access to the crossing will not be lost.

AP-179

Myrtle Creek Watershed

Project Impacts by ACS Objective

Table 4.1.3.5-15 compares the Pacific Connector Pipeline Project impacts to the objectives of the ACS for the Myrtle Creek watershed. The pipeline project corridor would not intersect any waterbodies on federal land in the Myrtle Creek watershed. One Riparian Reserve is clipped by the construction corridor, which would result in less than half an acre of clearing. Approximately 4 acres would be modified by UCSAs. Watershed conditions and

4-109

4.1 – Land Use

AP1

Continued, page 35 of 48

AP1-179

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP-180

Project Impacts by ACS Objectives

- timber harvest and removal of LWD from creek channels has reduced structural complexity of the aquatic habitat and its ability to retain sediments;
- chronic, fine-grained sediment, primarily related to roads have negatively affected aquatic habitats; and
- the presence of roads has segregated some stream reaches from upslope habitats that are needed for replenishment of LWD (Forest Service 1995a).

4.1 – Land Use

4-120

AP1-180

AP1-181

AP1-182

AP1-183

AP1-184

AP1-185

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Draft EIS

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Clearing associated with the pipeline project corridor would remove less than 1 acre of LSOG vegetation in Riparian Reserves (appendix J, table 2.5.3.1-4). While this is a long-term change in vegetative condition, it is minor in scale and well within the range of natural variability for changes in vegetative condition given the fire history of the watershed (appendix J, section 2.5.3.4).

The high clay-content soils in the watershed (BLM 1999c:1-4) present a potential issues with possible compaction, sediment produced at stream crossings, and sediment that could be mobilized by overland flow. Subsoil ripping (including the use of hydraulic excavators) is a proven method to reduce soil compaction. Measures in the ECRP including soil remediation with biosolids or other organic materials, rapid revegetation, and maintenance of effective ground cover are likely to control surface erosion. Erosion control measures described in appendix J, section 1.3 for stream crossings are likely to be successful at minimizing sediment associated with clearing in Riparian Reserves in the Trail Creek watershed. The BLM and Forest Service may require additional erosion control measures if needed.

Stream crossings adjacent to the BLM property boundary on private lands are addressed in section 4.4 of this EIS.

Off-site mitigation measures, identified by the BLM and Forest Service, would supplement on-site minimization, mitigation, and restoration actions. These proposed off-site mitigation measures are responsive to recommendations in the Trail Creek watershed assessment and would contribute to improving terrestrial and aquatic conditions within the watershed (appendix J, section 2.5.3.6). Table 4.1.3.5-24 describes proposed off-site mitigation measures in the Trail Creek watershed.

UNF fuels reduction in 2.1.4-2 is 414 acres, under-burn is 280 acres.			TABLE 4.1.3.5-24 BLM and NFS Lands in the Trail Creek Watershed	
Agency	Project	Group	Project Name	Project Rationale
Forest Service	Fuels Reduction	Fuel Break	Upper Trail Creek Shaded Fuel Break (566 Acres)	High intensity fire has been identified as the single factor most impacting late successional and old growth forest habitats on federal lands in the area of the Northwest Forest Plan (NWFP). Construction of the
BLM	Fuels Reduction	Stand Density Fuel Break	Trail Creek Fuel Hazard Reduction (687 Acres)	pipeline and associated activities removes both mature and developing stands and will increase fire suppression complexity. However, the corridor also provides a fuel break. Fuels reduction adjacent to the corridor will increase the effectiveness of the corridor as a fuel break. Fuels reduction will lower the risk of loss of developing and existing mature stands and other valuable habitats to high-intensity fire. These segments tie together as part of the Mile to Shady Cove fuel break on both BLM and NFS lands.
BLM	Fire Suppression	Fire suppression	Trail Creek Pump House (8 Sites)	Construction of the pipeline and associated activities would increase fire suppression complexity. Pump houses increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.
Forest Service	Road Decommissioning	Road Sediment Reduction	Upper Trail Creek Road Decommissioning (1.1 Miles)	Sediment has been identified by the Upper Rogue Watershed Council as a limiting factor for aquatic habitat in Trail Creek. Road decommissioning reduces habitat fragmentation, reduces road-related sediment and improves hydrologic connectivity and by reducing road density.
BLM	Road Decommissioning	Road Sediment Reduction	Trail Creek Road Decommissioning (2.7 Miles)	

AP-186

4.1 – Land Use

4-130

AP1

Continued, page 37 of 48

AP1-186

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

these crossings. Except as noted above, measures in the ECRP including re-vegetation and maintenance of effective ground cover are likely to control surface erosion. Erosion control measures described in appendix J, section 1.3.1 for stream crossings would likely be successful at minimizing sediment associated with stream channel crossings in the watershed. The BLM may require additional erosion control measures if needed. Impacts on stream temperature are unlikely because the affected channels are intermittent streams.

Off-site mitigation measures, identified by the BLM, would support mitigation, and restoration actions. These proposed off-site mitigation recommendations in the Big Butte Creek Water Quality Restoration Plan would contribute to improving terrestrial and aquatic conditions within the watershed (see appendix J, section 2.5.5.6). Table 4.1.3.5-28 describes proposed off-site mitigation measures for the Big Butte Creek watershed.

TABLE 4.1.3.5-28

Proposed Off-site Mitigations on BLM Lands in the Big Butte Creek Watershed

Project Type	Mitigation Group	Project Name	Project Rationale
Fire Suppression	Fire suppression	Big Butte Creek Pump/Chance 1 site	Construction of the pipeline and associated activities would increase fire suppression complexity. Pump chances increase capacity for agency response and help reduce potential fire losses to valuable habitats by providing readily available water sources.
Road Surfacing	Road Sediment Reduction	Big Butte Creek Road storm-proofing 6.4 miles	Sediment was identified by the Upper Rogue Watershed Council as a factor that limited aquatic habitat in Big Butte Creek. The effects of the Pacific Connector Pipeline Project are similar to those of a road, including possible impacts to flow and sediment regimes. Improvement of existing roads restores hydrologic connectivity and reduces sediment by managing drainage and restoring surfacing where needed.

Except as noted above, the routing of the pipeline through the relatively small area of BLM land that would be affected by pipeline project construction (approximately 12 acres) makes it highly improbable that project impacts would affect watershed conditions beyond minor, short-term impacts at the site scale on two isolated intermittent streams. Impacts on Riparian Reserves could be further reduced by realignment to get the corridor out of the Riparian Reserves at MP 131.4 to 131.78. Although there are project-level impacts (e.g., short-term sediment and a change in vegetative condition at stream crossings), these would be minor and would be largely limited to the boundaries of the project area except as noted above. Proposed amendment of the Medford District RMP to waive protection measures for S&M species would not prevent attainment of ACS objectives because the pipeline project does not threaten the persistence of any riparian-dependent species (appendix J, section 2.5.5.5).

Except as noted above, no project-related impacts that would prevent attainment of ACS objectives have been identified (appendix J, section 2.5.5.8). Impacts, as they relate to relevant ecological processes, would be within the range of natural variability for watersheds in the Western Oregon and High Cascade Provinces although some of these processes have been altered from their natural condition (appendix J, section 2.5.5.4).

4-139

4.1 – Land Use

AP1

Continued, page 38 of 48

AP1-187

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP-187

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Draft EIS

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

off the road before it can enter stream courses. Storm-proofing of 13.8 miles (approximately 27 acres) of Forest Service and BLM roads would reduce sediment from roads by increasing the resistance of a road to failure during high-intensity rainfall events. Storm-proofing strategies include improving drainage, reducing diversion potential at culverts, out sloping road surfaces and replacing culverts with hardened low water fords. Road sediment reduction activities would result in approximately 409 total acres of long-term sediment mitigation on federal lands. This mitigation would offset the short-term impacts during Project construction to over 1,000 acres of federal lands.

Road stabilization and culvert replacement of five sites on NFS and BLM lands would reduce road-related sediment by stabilizing or removing failing cut and fill slopes. Culvert replacement reduces sediment by replacing undersized or failing culverts with culverts that are appropriate to pass debris at higher flows. This reduces the probability of fill failure associated with plugged culverts.

The specific locations of the road sediment reduction activities are listed in table 4.3.3.2-1. Activities on BLM lands include road surfacing near the Coquille River East, Middle, and North Forks (Coos Bay); road drainage-culvert replacement near the Clark Branch South Umpqua (Roseburg); road stormproofing near the South Umpqua Days Creek (Roseburg); road drainage and surface enhancement near Myrtle Creek (Roseburg); and road stabilization in the Olalla-Looking Glass watershed (Roseburg).

Unit	Watershed	Mitigation Group	Project Type	Project Name	Quantity	Unit
Coos Bay BLM	East Fork Coquille River	Road Sediment Reduction	Road Surfacing	Road Surfacing -Yankee Run Spurs	0.9	miles ^a
	East Fork Coquille River	Road Sediment Reduction	Road Surfacing	Road Surfacing -South Fork Elk Creek	2.6	miles
	East Fork Coquille River	Road Sediment Reduction	Road Surfacing	Road Surfacing -Yankee Run Mainline	2.0	miles
	Middle Fork Coquille River	Road Sediment Reduction	Road Surfacing	Road Surfacing -Fat Creek System	0.9	miles
	Middle Fork Coquille River	Road Sediment Reduction	Road Surfacing	Bridge Approach paving -Sandy & Jones Creek Roads	ea.	
	Middle Fork Coquille River	Road Sediment Reduction	Road Surfacing	Bridge Approach paving -Woodward & Alder Creek Roads	2	ea.
	North Fork Coquille River	Road Sediment Reduction	Road Surfacing			
Roseburg BLM	Clark Branch South Umpqua	Road Sediment Reduction	Road Drainage - Culvert Replacement	East Fork Willis Creek Tributary Culvert Replacement	1	project
	Clark Branch South Umpqua	Road Sediment Reduction	Road Drainage - Culvert Replacement	Judd Creek Culvert Removal	1	project
	Days Creek - South Umpqua	Road Sediment Reduction	Road storm-proofing	31-4-3.2 Road Storm- proofing	1	project
	Days Creek - South Umpqua	Road Sediment Reduction	Road Drainage and Surface Enhancement	South Umpqua Road Drainage and Surface Enhancement	10.0	miles
	Middle Fork Coquille River	Road Sediment Reduction	Road Drainage and Surface Enhancement	Camas Mountain Road Drainage and Surface Enhancement	3.5	miles
	Myrtle Creek	Aquatic and Riparian Habitat	Fish Passage	Slate Creek Culvert Replacement	1	project
	Myrtle Creek	Road Sediment Reduction	Road Drainage and Surface Enhancement	Ben Branch Road Drainage and Surface Enhancement	1.0	miles

These two are listed
as one in Appx F
Table 3-3a
(p.25) - "0.9 miles"

AP-188

4.3 - Soils and Sediments

4-338

AP1

Continued, page 39 of 48

AP1-188

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

20150213-5184 PERC PDF (Unofficial) 2/13/2015 2:15:30 PM

Jordan Cove Energy and
Pacific Connector Gas Pipeline Project

Draft EIS

TABLE 4.3.3.3-1
Mitigation Projects to Address LMP Amendments on BLM and NFS Lands

Unit	Watershed	Mitigation Group	Project Type	Project Name	Quantity	Unit
Roseburg BLM (cont'd)	Myrtle Creek	Road Sediment Reduction	Road Stabilization	South Myrtle Hill Slide Repair	1	project
	Olaia-Looking Glass	Road Sediment Reduction	Road Stabilization	Olaia Tie Road Renovation	1	project
Medford BLM	Big Butte Creek	Road Sediment Reduction	Road Storm-proofing	Big Butte Creek Road Storm-proofing	6.4	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	3.5	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
	Little Butte Creek	Road Sediment Reduction	Road Storm-proofing	Little Butte Creek Road Storm-proofing	10.6	miles
Lakeview BLM	Shady Cove RR	Road Sediment Reduction	Road Storm-proofing	Shady Cove Road Storm-proofing	1.0	mile
	Shady Cove RR	Road Sediment Reduction	Road Storm-proofing	Shady Cove Road Storm-proofing	1.5	miles
	Trail Creek	Road Sediment Reduction	Road Storm-proofing	Trail Creek Road Storm-proofing	4.3	miles
	Trail Creek	Road Sediment Reduction	Road Storm-proofing	Trail Creek Road Storm-proofing	2.7	miles
	Trail Creek	Road Sediment Reduction	Road Storm-proofing	Trail Creek Road Storm-proofing	16.3	miles
	Spencer Creek	Road Sediment Reduction	Road Storm-proofing	Spencer Creek Road Storm-proofing	1	site
	Spencer Creek	Road Sediment Reduction	Road Storm-proofing	Spencer Creek Road Storm-proofing	15	sites
	Spencer Creek	Road Sediment Reduction	Road Storm-proofing	Spencer Creek Road Storm-proofing	12	sites
	Spencer Creek	Road Sediment Reduction	Road Storm-proofing	Spencer Creek Road Storm-proofing	12	sites
	Spencer Creek	Road Sediment Reduction	Road Storm-proofing	Spencer Creek Road Storm-proofing	12	sites
Umpqua National Forest	Days Creek - South Umpqua	Road sediment reduction	Road Closure	Days Creek -South Umpqua Road Closure	0.5	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	1.6	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
	Elk Creek - South Umpqua	Road sediment reduction	Road Storm-proofing	Elk Creek Road Storm-proofing	2.8	miles
Rogue River National Forest	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	2.6	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
	Upper Cow Creek	Road sediment reduction	Road Closure	Upper Cow Creek Road Closure	4.3	miles
Winema National Forest	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles
	Spencer Creek	Road sediment reduction	Road Decommissioning	Spencer Creek Road Decommissioning	53.2	miles

AP-189

AP-190

These two projects are listed as one in Appx F Table 3-11a (p.52) with the same total of 13 acres

These two projects are listed as one in Appx F Table 3-11a (p.52) with a total of 18.3 acres

Mileages are rounded to nearest tenth of a mile.

4-339

4.3 - Soils and Sediments

AP1 Continued, page 40 of 48

AP1-189 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-190 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

Unpucka, Rogue River and Winema National Forests, Amended Mitigation Plan
Pacific Connector Gas Pipeline, March 9, 2011

[illegible]

AP1 Continued, page 41 of 48

- AP1-191 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.
- AP1-192 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.
- AP1-193 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

[illegible]

AP1-194 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-195 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-196 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

[illegible]

AP1-197 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-198 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

AP1-199 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.


Umpqua, Rogue River and Winema National Forests, Averred Mitigation Plan
Pacific Connector Gas Pipeline, March 9, 2011

Mitigation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Project Name is	Project Type (Project Name is)	Project Type (Project Name is)
Wetlands Aquatic	Riparian Areas: Maintain or enhance the characteristics of riparian areas, wildlife habitat, and fish habitat near or within riparian areas. Management is designed to protect soil, water, wetland, floodplain, wildlife, and fish and riparian vegetation communities. Riparian vegetation communities, wildlife habitat, and fish habitat near or within riparian ecosystems (WNS 4-136, 139, 139, 4-2, UNF IV-59)	Riparian Area: Maintain or enhance the characteristics of riparian areas, wildlife habitat, and fish habitat near or within riparian areas. Management is designed to protect soil, water, wetland, floodplain, wildlife, and fish and riparian vegetation communities. Riparian vegetation communities, wildlife habitat, and fish habitat near or within riparian ecosystems (WNS 4-136, 139, 139, 4-2, UNF IV-59)	Winema NF, Spencer Creek	0.1 project	Spencer Creek Crossing	Spencer Creek Crossing	Spencer Creek Crossing
	Wetlands: Protect, maintain and enhance the ecological health and productivity of fish habitats and anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2).	Wetlands: Protect, maintain and enhance the ecological health and productivity of fish habitats and anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2).	Rogue River NF, Little Butte Creek	32 stream crossings (one note in road decommissioning)	Rogue River NF, Little Butte Creek	Rogue River NF, Little Butte Creek	Rogue River NF, Little Butte Creek
	Aquatic ecosystems: restore and maintain the ecological health of wetlands and aquatic ecosystems (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2).	Aquatic ecosystems: restore and maintain the ecological health of wetlands and aquatic ecosystems (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2).	Winema NF, Spencer Creek	1 mile	Spencer Creek	Spencer Creek	Spencer Creek
	Wetlands: Protect, maintain and enhance the ecological health and productivity of fish habitats and anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2).	Wetlands: Protect, maintain and enhance the ecological health and productivity of fish habitats and anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2). High standards of water quality in terms of sediment, nutrients, and other pollutants for anadromous fish (UNF IV-43, 4-2).	Rogue River NF, Little Butte Creek	0.5 miles	Rogue River NF, Little Butte Creek	Rogue River NF, Little Butte Creek	Rogue River NF, Little Butte Creek

AP1 Continued, page 44 of 48

- AP1-200 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.
- AP1-201 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.
- AP1-202 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

Umpqua, Rogue River and Winema National Forests, Amended Mitigation Plan
Pacific Connector Gas Pipeline, March 9, 2011

Mitigation Group	Related Forest Plan Goals and Objectives	Mitigation Activity	Location	Amount	Treatments in 50 year	Resource Benefit	Rationale
Grazing	<p>Riparian Area: Maintain or enhance the characteristics of riparian areas, wildlife habitat, and fish habitat near or within riparian corridors (VGN 4-6). Water quality, riparian vegetation, and riparian/ wetland habitat for dependent fish and wildlife species (VGN 4-16) Riparian area management includes riparian, soil, water, wetland, floodplain, wildlife, and fish resource values associated with riparian vegetation communities (VGN 4-136), maintain dependent fish and wildlife with lakes (VGN 4-139).</p> <p>ACS Objectives 3, 4, 5, 8, 9</p>	<p>Forest communities with cattle pastures</p> <p></p>	<p>Forest communities with cattle pastures</p> <p>Project Closure</p> <p>Altimet-type "Fencing" (6.4) is the same.</p>	<p>Under mitigation group</p> <p>Aquatic and Riparian Habitat, under the project</p>		<p>Wildlife and aquatic habitat</p> <p>Visual resources, public safety</p>	<p>This fence would serve to divide the Buck Island Allotment into pastures north and south of Oliver Creek Road. This fence would keep cattle from grazing newly revegetated areas in the Right of Way corridor, including areas where the corridor crosses Spencer Creek, thus helping to ensure that erosion control and revegetation objectives are met. It was also used to separate existing and proposed cattle grazing of the allotment from riparian areas and wetlands. The fence would be constructed along Oliver Creek road. This fence would require 7.2 cattle guard crossings for Forest Roads intersecting the fence.</p>

AP-203

AP1 Continued, page 45 of 48

AP1-203 The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

[illegible]

AP-204

AP1 Continued, page 46 of 48

AP1-204

The numbers in Section 3.0 and 4.0 of Appendix F have been reviewed and compared with the numbers in the mitigation tables in the DEIS, and corrections have been made where necessary in the FEIS. Attachments 1 and 2 to Appendix F however were earlier versions of the compensatory mitigation plans of the BLM and Forest Service and were included to provide additional background on the development of the mitigation plans that are summarized in Table 2.1.4-2.

Attachment B

Seasonal Timing Restrictions Associated with Bird Species

Activity	Seasonal Timing Restrictions Associated with Bird Species for Timber Felling, Logging, Clearing, and Construction Activities					
	Migratory Birds	Northern Spotted Owl	Marbled Murrelet	Great Gray Owl	Bald Eagle	Persimmon Falcon
Felling & Brushing*	NO WORK - April 1 - July 15	NO WORK - March 1 - Sept 30	NO WORK - April 1 - Sept 15, 300-ft buffer	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
Logging, Skidding & Processing	NO RESTRICTION - Free and light previously removed	NO WORK - March 1 - July 15	NO WORK - April 1 - Aug 5, 14-m buffer from stand	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
Cleaning, Grubbing, & Stump Removal	NO RESTRICTION - Free and light previously removed	NO WORK - March 1 - July 15	DTR - April 1 - Sept 15 for herbicide application	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
Access Road Construction	NO RESTRICTION - Free and light previously removed	NO RESTRICTION - Free and light previously removed	DTR - April 1 - Aug 5, 14-m buffer from stand if trees have been previously removed	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION
Drinking Through Restricted Area	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION	NO RESTRICTION
On Eulachin Access Road	NO RESTRICTION - Free and light previously removed	NO WORK - March 1 - July 15	DTR - April 1 - Aug 5, 14-m buffer from stand	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
Pipeline Construction	NO RESTRICTION - Free and light previously removed	NO WORK - March 1 - July 15	DTR - April 1 - Sept 15 for herbicide application	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
Maintenance on Existing Access Roads	NO RESTRICTION - Free and light previously removed	NO WORK - March 1 - July 15	DTR - April 1 - Sept 15 for herbicide application	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
Access Road Improvement & New Road Construction	NO WORK - April 1 - July 15 if cutting trees or brush	NO WORK - March 1 - Sept 30 if tree removal	NO WORK - April 1 - Sept 15, 300-ft buffer from stand if no tree removal	NO WORK - March 1 - July 31	NO WORK - Jan 1 - Aug 31	NO WORK - Jan 1 - July 31
AFFECTED SPECIES	ALL	ALL in defined locations	1 & 2 in defined locations	12 & 2 in defined locations	1 in defined location	13 in defined location

* All forest riparian areas (not including riparian deciduous tree groves, shrubland thickets, etc.) are considered migratory bird habitat and will need to be removed outside the nesting window, just like merchantable timber. Cleared understory in forest riparian areas will be removed for the same reason.

** DTR - Daily Timing Restrictions stipulate no work until two hours after sunrise and work must stop two hours before sunset.

CO1



**Comments on the Federal Energy Regulatory
Commission (FERC) Jordan Cove Export
Terminal / Pacific Connector Pipeline Draft
Environmental Impact Statement**

**Alan Journeet Ph.D., Co-facilitator
Southern Oregon Climate Action Now**

December 16th 2014

Retiring Senator Tom Harkin (D. Iowa):
*"Every dollar that we spend on fossil fuel development and use is
another dollar we spend digging the graves of our grandchildren.
And I'm not going to be a part of it anymore."*

Executive Summary:

The primary focus in this submission is human-induced global warming and the interests of those without a voice at the table – future generations.

FERC Responsibility:

The Federal Energy Regulatory Commission acknowledges that it has a responsibility to consider the need and public good of the proposed project.

This responsibility includes not only environmental consequences but also cumulative impacts comprising the impact of this and other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

The President's Council on Environmental Quality considers that under the National Environmental Policy Act (NEPA) Federal agencies should evaluate greenhouse gas emissions and their potential impact.

In contrast to its clear responsibility, the Draft Environmental Impact Statement repeatedly asserts that its purview is too narrow to include cumulative impacts, especially those associated with LNG exports, natural gas extraction, and natural gas combustion.

Nevertheless, the DEIS argues that there is no reasonable expectation that the project will stimulate further gas extraction despite the fact the Department of Energy states clearly Jordan Cove expects that to be the result.

Despite ignoring cumulative impacts of related projects, the DEIS acknowledges that greenhouse substantial gas emission will result directly from the activities of the project – emissions sufficient to make this one of the largest emitters in the state.

CO1-1

1

COMPANIES AND ORGANIZATIONS

CO1 Southern Oregon Climate Action Now

CO1-1 There is no evidence that the Project would induce additional natural gas exploration and production. Without any LNG export terminals currently operating in the continental United States, domestic natural gas production is growing. The U.S. Department of Energy (DOE) report did not say that exporting LNG would induce domestic natural gas production. Instead what that report said was: "Fundamental uncertainties constrain the ability to predict what, if any, domestic natural gas production would be induced....The current rapid development of unconventional natural gas resources will likely continue, with or without the export of natural gas" (DOE, Addendum to Environmental Review Documents Concerning Export of Natural Gas from the United States, 29 May 2014). Section 1.4.4 of the DEIS explained why we did not analyze "life-cycle" emissions. See response to IND7-2. Our analysis of cumulative impacts can be found in section 4.14 of the DEIS. GHG emissions resulting from the Project were discussed in section 4.12.1.4 of the DEIS.

CO1 Continued, page 2 of 15

These emissions are sufficient to compromise the ability of the state to honor legislatively agreed greenhouse gas emissions goals.

The DEIS employs out-of-date estimates of methane impact on global warming, and defends using woefully old comparisons on the basis of 'consistency.'

The Global Warming Issue:

While we are already locked into a global warming of 1.6°C, many agencies and International Agreements alike agree we should limit warming to 2°C even though this itself, may be too great an increase to protect our planetary life support systems.

Because of lags in effect, we are already locked into an increase that means we are 4/5ths of the way to that 2°C limit.

The math tells us that we have only a limited budget of greenhouse gas emissions available before we reach that limit, and at the current emissions rate we will consume that budget in 13 years, fewer if the business as usual rate of accelerating emissions is followed.

Given the huge stores of greenhouse gases in known fossil fuel reserves, the message is that we must leave the vast majority of these in the ground.

Criteria for what should be left are identified notably identifying fracked fossil fuels as particularly profound candidates for leaving.

Given the existence of fugitive emissions and the reality that methane has many times more global warming impact than carbon dioxide, natural gas is worse than oil or coal as a global warming agent.

Given the EPA calculation of the social cost of carbon, there is clearly a substantial multi-million or even multi-billion dollar cost imposed on humans as a result of the direct emissions of gases from this project, a figure that is multiplied manifold times if the cumulative impact of related past, present, and future activities are included.

Wildlife Impacts:

As a result of its passage through USFS and BLM land, especially old growth and late successional forest, the pipeline is acknowledged to pose a threat to many species of wildlife.

While acknowledging the impact of edge effects and fragmentation, the DEIS inadequately accounts for these issues.

The claim that USFS and BLM Land Management Plan adjustments are adequate to compensate for the habitat loss imposed by the project is flawed.

CO1-2

CO1-3

CO1-4

CO1-2 See the response to IND1-2.

CO1-3 See the response to IND1-1.

CO1-4 Edge effects are discussed in sections 4.5.1 and 4.6.1.2. As the DEIS notes, the adverse effect tends to decline over time as young trees grow along the edge (page 4-541). There is no on-site mitigation for the fragmentation and edge effect that would be created by the maintenance of the 30 foot wide low vegetation portion of the pipeline corridor. These effects would remain for the life of the pipeline. The BLM and Forest Service however have proposed compensatory mitigations such as road decommissioning that would offset some of these impacts (see DEIS pages 4-206 to 4-208 for a discussion of this mitigation as it relates to reducing effects of edge and fragmentation).

Cost-Benefit Analysis:

The DEIS measure corporate profit and local economic gain as the benefit (recognized in the DEIS as 105 local long term jobs), but fails completely to balance this against the national cost in terms of wildlife losses, or the global cost of greenhouse gas emissions.

CO1-5

Conclusion:

While FERC is authorized and responsible to assess the cumulative environmental impact of this project against the benefits accruing from it if completed, the DEIS completely fails to offer any analysis of the global warming impact of the project, and thus ignores its major impact.

CO1-6

Regrettably, the DEIS appears to have been developed with a view to justifying the project rather than with a view to assessing genuinely whether an objective cost-benefit analysis would suggest it is in the public interest.

CO1-7

Comments

Preamble:

I am a retired biologist, in fact a retired Conservation Biologist. As a result, I am deeply concerned not only about humans, but also about lions and tigers and bears, and, yes, even birds and invertebrates. I am also an environmentalist. But, although these values color my judgment, it is not primarily in this context that I submit comments on the proposed Jordan Cove LNG Export Terminal and Pacific Connector Natural Gas Pipeline Federal Energy Regulatory Commission (FERC) Draft Environmental Impact Statement (DEIS).

Rather, I submit comments on behalf of those who are unable to offer their comments. I refer to children – both those as yet unborn and those who are too young to know what is happening and how it is relevant to them. All of us, especially those with children and grandchildren have a responsibility to consider, in all our decisions, the planet that we pass on to the future. The defining problem of our era is unquestionably human-induced global warming and the climate chaos it is inducing. The purpose of this submission is primarily to request that the Federal Energy Regulatory Commission take this responsibility seriously and deeply to heart when making a decision on these natural gas proposals.

The Role of the Federal Energy Regulatory Commission

It is encouraging to see that FERC (2014, P. 3–63) states “The Commission will consider the need and public benefit of this Project when making its decision on whether or not to authorize it, as documented in the Project Order.”

3

CO1 Continued, page 3 of 15

- CO1-5 The DEIS does not measure corporate profits. In fact, if the Commission authorizes the Project, it is possible that the Order would contain a rate base that restricts profits.
- CO1-6 Our analysis of cumulative impacts can be found in section 4.14 of the DEIS. Climate change was addressed in section 4.14.3.12. Also, see the comment previous comment response.
- CO1-7 The EIS is not a decision-document, and does not justify the project. Instead, it discloses environmental impacts. The FERC does not engage in cost-benefit analyses, as such. Instead, the Commission developed a “Certificate Policy Statement” (Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC 61,227 (1999), clarified in 90 FERC 61,128, and further clarified in 92 61,094 (2000)) that established criteria for determining whether there is a need for a proposed project and whether the proposed project would serve the public interest. The Certificate Policy Statement explains that in deciding whether or not to authorize new natural gas facilities, the Commissioners must balance public benefits against potential adverse economic and environmental consequences. The DEIS discloses the potential impacts of construction and operation of the Project on environmental resources, such as effects on wildlife, and outlines measures that would be implemented to avoid, minimize, or mitigate those impacts. The EIS also discloses benefits of the Project, such as job creation and increased payment into local tax bases.

CO1 Continued, page 4 of 15

However, as the document unfolds, there seems to be some confusion about what exactly lies within the purview of FERC in this DEIS; what criteria allow FERC to decide 'the need and public benefit.'

Weissmann and Webb (2014) point out regarding FERC responsibilities in the case of Interstate Natural Gas Pipelines: "In reaching a final determination on whether a project will be in the public convenience and necessity, the Commission performs a flexible balancing process during which it weighs the factors presented in a particular application. Among the factors that the Commission considers in the balancing process are the proposal's market support, economic, operational and competitive benefits, **and environmental impacts.**" (emphasis mine)

In stating its role in the DEIS evaluation, FERC (2014 p 1-1) points out that it is the lead agency for preparing a DEIS in accordance with the National Environmental Policy Act (NEPA). In this regard, Weissmann and Webb (2014) point out that a 2012 memorandum from the Council of Environmental Quality (CEQ) to federal agencies recommended that they consider **cumulative impacts** of the greenhouse gas emissions of a project (emphasis mine). Lest there be any doubt about the relevance of assessing greenhouse gas emissions, the Supreme Court decision in 2007 held that greenhouse gases are air pollutants for the purposes of the Clean Air Act. Notably, meeting the requirements of the Clean Air Act is one criterion that FERC acknowledges is its responsibility in undertaking the environmental assessment.

To confirm that greenhouse gas emissions should be considered, President Obama's then CEQ Chairwoman Nancy Sutley stated in 2014: "most agencies already recognize that they need to consider greenhouse gas emissions as an environmental effect under NEPA and need to consider to what extent they need to analyze that as part of their NEPA review..." (Chemnick 2014).

The evidence suggests emphatically that consideration of greenhouse gas emissions should be prominent in the FERC analysis of the project.

Additionally the FERC (2014 p 1-14) DEIS states: "In addition to complying with the NEPA, our purposes for preparing this DEIS include:

- a description and evaluation of reasonable alternatives to the proposed actions that would avoid or **minimize adverse effects on the environment**;
- the identification and assessment of the potential direct, indirect, and cumulative impacts on the **natural and human environment** that would result from implementation of the proposed actions;
- the identification and recommendations for specific mitigation measures, as necessary, to avoid or **minimize significant environmental effects**; and
- the involvement of the public, other agencies, and interested stakeholders in the **environmental review process.**"

CO1 Continued, page 5 of 15

In relation to what constitutes cumulative impacts, FERC (2014 P 4-997) itself defines cumulative effects as “the impact on the environment which results from the incremental impact of the action [i.e. this proposal] when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions.”

This implies quite clearly, and as apparently acknowledged by FERC, that the DEIS should consider *cumulative environmental impacts* outside the immediate jurisdiction of this project (emphasis mine).

In conflict with this interpretation, FERC (2014) repeatedly makes the case in its DEIS that its purview is too narrow to allow considering cumulative environmental impacts of this and correlated activities.

CO1-8

CO1-8 Our analysis of cumulative impacts can be found in section 4.14 of the DEIS.

CO1-9 See responses to IND6-1 and IND7-2.

CO1-10 See response to CO1-1.

In rejecting the need to explore climate change implications of the project, FERC (2014, P 1-20) precludes consideration of ‘out-of-scope’ issues such as: “the need to export LNG; horizontal hydraulic drilling through shale formations during exploration for natural gas (often referred to as “fracking”); induced production of natural gas; “life-cycle” cumulative environmental impacts associated with the entire LNG export process....”

FERC (2014, P1-21) further argues “The ‘life-cycle’ cumulative environmental impacts, from exploration, production, and gathering of natural gas; transportation to Pacific Connector; and shipment of LNG overseas from the Jordan Cove terminal are far beyond the jurisdictional authority of the FERC or the activities directly related to the Project.”

CO1-9

It is confusing, then, to discover that some non-jurisdictional issues are open to consideration: “Our analysis in this EIS focuses on facilities and actions that are under the FERC’s jurisdiction. However, this EIS also analyzes the potential environmental impacts resulting from non-jurisdictional connected actions...” (FERC 2014, P. 1-15).

Despite this argument against even considering highly relevant cumulative impacts of this and related projects, the DEIS looks briefly at the possibility that the pipeline and export facility might induce additional natural gas extraction and hydraulic fracturing (fracking). This consideration is swiftly closed, however, as FERC (2014, P 1 – 21) claims that: “induced or additional natural gas production is not a “reasonably foreseeable” indirect effect of the Project, and is not addressed...”

CO1-10

This claim is counter-intuitive for two reasons:

CO1 Continued, page 6 of 15

1) If increased production is not an implicit reason for the project, and “existing transmission pipelines in the western states are underutilized” (FERC 2014, P1–21) there is *prima facie* no need for this project. The logical conclusion to be drawn from this discussion is either: the pipeline will stimulate new production for which current transmission lines are insufficient **OR** the pipeline is not necessary.

CO1-10
Cont'd

2) In its order conditionally granting long term multi-contract authorization to export Liquefied Natural Gas from Jordan Cove, the Department of Energy (DOE 2014, P 21-22) states: “According to Jordan Cove, this ... [project]... will support increased production of natural gas from shale formations” Clearly, for Jordan Cove itself, increased natural gas production is an integral and assumed component of the project.

In the former context, the discussion of existing pipelines (FERC 2014, P. 3-3/5) is either incomplete or suggests that insufficient natural gas is arriving in Malin to meet the project objective. Furthermore, it indicates that there exists insufficient pipeline to transport the desired amount of gas to the west coast. If this is the case, the math dictates that this pipeline must seek more natural gas than is currently available to meet its objective. Contrary to the FERC (2014) claim above, the pipeline must stimulate further extraction if its stated objective is to be met.

CO1-11

Even if the DEIS were to ignore completely the cumulative greenhouse gas impact of correlated activities associated with the project (i.e. fracked natural gas and natural gas combustion), in terms of the direct emissions of greenhouse gases from the Jordan Cove Export Terminal itself, FERC (2014 P4-895) concludes carbon dioxide and equivalent gas emissions would reach over 2.1 million tons annually. It has been widely reported (Sickinger 2014) that this will make the terminal soon one of the largest, if not the largest, emitter of greenhouse gases in the state of Oregon. Natural gas systems are identified by the Environmental Protection Agency (EPA) as the largest methane emitting activities (EPA 2013b), though even these EPA data have been questioned as considerably underestimating emissions (Miller *et al.* 2013). With emissions occurring mainly at compressor and meter stations, of which nine are indicated in the proposal (FERC 2014 1 – 10/11), this project would undoubtedly directly contribute substantially to the global warming problem. Although FERC (2014 p 4-895) reports only 149 metric tons per year of CO₂e emissions from the pipeline, nearly 130,000 Metric tons per annum would result from the stations along its route.

CO1-12

In 2007, the Oregon legislature approved a plan (HB3543) to reduce the state’s greenhouse gas emissions such that by 2020 these should be 10% below 1990 levels and by 2050, 75% below 1990 levels (<http://www.keepporegoncool.org/content/goals-getting-there>). Commenting on the role of fossil fuel exports through the Pacific Northwest, Angus Duncan (Chair of the

CO1-11 The Pacific Connector pipeline is designed to deliver 1.04 billion cubic feet of natural gas per day (bcf/d) to the Jordan Cove terminal, where Jordan Cove could use that gas to produce a maximum of 6.8 million metric tons of LNG per annum (MMTPA). See January 15, 2015 filing with the FERC by Jordan Cove.

CO1-12 See the response to IND1-1.

CO1 Continued, page 7 of 15

Governor's Global Warming Commission charged with developing a road map to achieve these goals) remarked: "Whether it's coal exports or LNG, to the extent Oregon has the ability to resist, impede, or slow these things down, we should be doing that."

DEIS Errors:

In discussing the impact of methane on global warming, FERC (2014, P 4-894) identifies the relative Global Warming Potential (GWP) of this gas compared to carbon dioxide as 21. Unfortunately, and importantly, this value is considerably out of date. The latest Intergovernmental Panel on Climate Change Report (IPCC 2013) concluded that the 100 year GWP for methane is 35 while the 20 year GWP is 84 – 86. Compounding this error, the FERC DEIS (2014, P 4-895) states that "For purposes of consistency" it uses data from the IPCC AR2 (1995), report. There can be absolutely no excuse for basing the evaluation of such an important proposal as this on data that are known to be out of date. To gain any credibility in this discussion, the correct data should be used.

In the same section (FERC 2014 p 4–895), based on an outdated study of natural gas imports, there is an attempt to justify the argument that Liquefied Natural Gas exported to China represents a greenhouse gas emission reduction over coal combustion. Not only does that study evaluate a totally different issue, it also predates the research reporting how extensive and destructive are fugitive emissions from natural gas. If the DEIS authors wish to evaluate the relative merits of burning liquefied natural gas versus coal, they should, at least, use current data. Furthermore, the claim that North American LNG would replace coal combustion in China requires the assumption that the availability of this natural gas would not simply stimulate further power plant construction but would replace coal fired power plants. This is exactly the kind of conclusion (this one made on the basis of flimsy outdated evidence) that FERC (2014, P 1–21) declined to make about the project encouraging increased natural gas extraction even when Jordan Cove asserted that it would encourage increased natural gas extraction.

There can be no doubt that this collective proposal would contribute substantially to a deteriorating global climate, a consequence that FERC should be evaluating.

The Global Warming Issue:

There is much about the universe that we do not know. On the other hand, there is much that we do know. The arena of climate science tells us, with as high a confidence as science ever tells us anything, that our planet is warming rapidly, and that human-induced emissions of greenhouse gases, from a variety of our behaviors, are contributing to this problem. The leading cause for these emissions, however, is undoubtedly our consumption of fossil fuels.

CO1-13

CO1-14

CO1-13 There is no "error" and as IPCC notes there is no unique "correct" data. IPCC also identifies that the GTP metric incorporates more knowledge than the GWP metric. Values of these metric range anywhere from 4 to 84 depending on what metric is used and IPCC acknowledges that there is no technical basis for picking any of these values over the others. Picking any of the 100-year values is defensible insofar as they represent midpoints in the range. For the sake of consistency, states such as California still use the 21 value in their regulatory programs, and the chart of data from Oregon is also based on the 21 value. Discussion on GWP and GTP has been updated.

CO1-14 The study that found the global warming potential of LNG exported from the Gulf Coast and burned in an electric plant in China to be less than that of coal produced in China or natural gas piped in from Russia was recently produced for the DOE by the National Energy Technology Laboratory (NETL, Skone, T., et al., 29 May 2014, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States).

CO1 Continued, page 8 of 15

CO1-15 Comments about production from oil sands or fracking methods to produce natural gas are not related to the environmental impacts associated with this Project. It is the Department of Energy, not the FERC, that regulates the U.S. Energy policy. See response to IND6-1 and IND1-3.

It is assuredly inconvenient to be forced by the evidence to have to acknowledge our culpability, but we cannot escape this conclusion. The evidence is clear that our planet has already warmed 0.8°C since the 1880s (Carlowicz 2010) and that our emissions to date have locked us into a further equal temperature increase (Dixon 2001). This means we are locked into approximately an overall 1.6°C increase above 1800 temperatures.

While it is unclear exactly what amount of warming would result in the unleashing of an array of positive feedback loops that will cause runaway warming, or what amount of warming will devastate our natural life support ecosystems, and our agriculture, forestry, and fisheries, the evidence suggests that a rise beyond 2°C is unquestionably too risky. As a result, many organizations, from the World Bank (2012, 2013, 2014) to the International Energy Agency (IEA 2009) agree that we must stay below 2°C. Meanwhile, when the International 2009 Copenhagen Accord was forged (UN 2009), it also stated that this increase must be our upper limit for global warming. Others argue, however, that even this may well be far too risky a temperature increase to protect our global systems (e.g. Hansen *et al.* 2013).

The data indicate that, in terms of global temperature, because of our emissions, to date we are already 4/5ths of the way to that upper limit. If we are serious about protecting the livability of this planet for future generations, we absolutely must take whatever steps are necessary to minimize our further emissions of greenhouse gases. Calculations indicating how much carbon dioxide and equivalent gases we can emit without crossing that critical threshold indicate we have a budget of about 500 gigatons (=billions of tons) by which time we must have stopped these emissions and transitioned completely to non- carbon energy sources. The math further tells us that at the current rate of fossil fuel use of about 35 gigatons (Carbon Budget 2014), we will have exhausted that budget in 13 years. Of course, we have fewer years if we follow the 'business as usual' trajectory of accelerating rather than decreasing emissions. (See, for example, Bagley 2013 and Meinhausen *et al.* 2009)

Unfortunately, we have many times more tons of greenhouse gases in known fossil fuel reserves than we can emit if we take our responsibility to future generation seriously.

The message is clear: we must leave many of these reserves in the ground if our children and grandchildren are important to us. Estimates suggest the proportion of known reserves we need to leave in the ground is in the 2/3rd (IEA 2009) to 4/5th (IEA 2012) range (see also UN Climate Chief Figueres, in Morales 2014).

Clearly, we need both the criteria to decide which should be left, and the sanity to leave them.

My suggestion is that the reserves to be left behind should be:

- 1) Those for which the Energy Returned on Energy Invested (EROEI) is lowest, and

CO1-15

CO1 Continued, page 9 of 15

2) Those the extraction and transportation of which pose environmental and human health risks.

Applying these criteria leads to the conclusion that tar sands and oil shale fuels (failing the first criterion) should be left, while hydraulically fractured or 'fracked' fuels (failing the second criterion) should also be left. While there is no such thing as a totally benign energy source, clearly some are substantially worse than others.

CO1-15
Cont'd

We appreciate the extreme problems, in terms of carbon dioxide emissions, caused by burning coal and oil, but claims promoted by natural gas corporations suggest that their product is less harmful. While it is true that burning methane (natural gas) releases much less carbon dioxide than burning coal or oil, it is also the case that methane has a 100 year Global Warming Potential 35 times, and a 20 year GWP 84 – 86 times, that of carbon dioxide. This property would not be critical except for the reality that natural gas leaks. Because of its profoundly greater warming impact, not much methane has to leak before the combustion benefit is totally negated. In fact, if leakage is greater than about 2 – 3%, the threshold is crossed, and natural gas becomes worse than coal as a global warming agent. Recent studies, such as those reported by Howarth (2014), show that in reality fugitive emissions from extraction source through transmission, to the site of combustion often considerably exceed this threshold. As a result, shale and fracked natural gas can be much worse than coal as a global warming agent.

CO1-16

When evaluating whether a project involving fossil fuel extraction, transport, export or utilization serves the public good, it is critical that consideration be given to the social cost of the emissions resulting from leakage and combustion of that fuel. It matters, of course, not one whit whether that fuel is burned locally or overseas, the global warming impact is identical.

Depending on the Discount rate used, EPA has estimated that the social cost of carbon emissions ranges from \$12 to \$116 per ton of carbon dioxide emitted (EPA 2013a). Since methane is so much more potent, we would have to infer that its social cost ranges much higher from \$420 or \$1020 (12*35 or 85) to \$4060 or \$9860 (116*35 or 85) per ton emitted. Surely it is time for us to stop allowing carbon pollution of whatever kind to be released into our atmosphere without any penalty or even without any consideration given to weighing the benefits of proposed projects against that social cost.

CO1-17

As we collectively try to address the problem of global warming we have to appreciate that there exists no magic bullet – no easy solution. As the Jordan Cove / Pacific Connector Projects are evaluated, we should examine their potential global warming impact.

Wildlife Impacts:

The Pacific Connector Pipeline route is anticipated to cross over 70 miles (approximately a third of the pipeline length) of USFS and BLM land, requiring of those agencies extensive revisions to

CO1-18

CO1-16 See the response to IND1-2.

CO1-17 See the response to IND1-2.

CO1-18 The BLM and USFS have proposed site-specific amendments to some of the management direction in their LMPs but are not proposing any revisions of their LMPs for the PCGP project. The purpose of the proposed reallocation of matrix lands to Late Successional Reserves (LSR) is to maintain or increase the amount of late-successional/old growth (LSOG) forest within the LSR system to maintain the integrity of the LSRs (see DEIS sec. 4.1.3.6). The DEIS recognizes that LSOG forest would be lost and the construction of the pipeline would result in long-term (permanent) adverse impacts to wildlife species dependent on LSOG forest (see DEIS sec. 4.5, 4.6, 4.7).

CO1 Continued, page 10 of 15

Land Management Plans to accommodate the project. Among these miles can be found considerable late successional Forest protected as Late Successional Reserves. Indeed, 10% of the total pipeline length crosses such reserves. To accommodate the destruction of tracts of these forests the agencies are expected undertake considerable re-designation of Late Successional/Old Growth Forest to Reserve status. This designation shell game may well create the impression of mitigation, but it does not alter the fact that despite extensive plans designed to mitigate impacts on wildlife, considerable acreage of actual old growth forest and species habitat will be lost.

CO1-18
Cont'd

One critical aspect of the impact that is discussed, concerns the edge effect. Adjacent to an edge, the impact of penetrating light and humidity loss can extend considerable distance into the forest compromising habitat for forest interior species. Edge effects are estimated to penetrate 100m into Late Successional Old Growth forests and twice tree height for younger forests (FERC 2014, P. 4-160). This means the biological effect of the pipeline corridor is far wider than its basic width. Edge effect also depends on topography (FERC 2014, P4-469). Because of these edge effects, the acreage affected is also double or triple that reported. Interestingly, however, the bird discussion (FERC 2014, P 5-524) omits altogether the impact of increased edge on forest interior species. Instead, there is the naïve and simplistic focus on how edge increases local rather than landscape diversity. It is recognized later, however (FERC 2014, P 4-541), that this diversity is due to generalists not forest interior specialists. In terms of landscape assessment, the loss of forest interior habitat will cause a depression in species richness.

CO1-19

Another serious consequence of this project is fragmentation (FERC 2014, P 4-68) which compromises wildlife habitat throughout the route as the pipeline divides forest into small patches. Many species require extensive areas of unbroken habitat in order to maintain population viability. Dissecting large tracts of forest habitat with a pipeline corridor into small fragments compromises the habitat requirements of such species. The combined effects of fragmentation and increased edge effect (which will be permanent since the center line of the corridor will always be managed as a treeless strip with low vegetation) are impacts for which no mitigation is possible.

CO1-20

It is not clear that the BLM and USFS amendments (FERC 2014, P 4-50 onwards) being taken to turn matrix forest into an artificially created late successional stand (spreading course wood debris and creating snags) comprises any more than the creation of a structural system with old growth appearance rather than a genuine old growth stand that has achieved that status through natural maturation.

CO1-21

The FERC DEIS (2014 P 4-38) acknowledges that it "would result in impacts to 62 species on 386 known sites" across the BLM and USFS lands in Coos, Douglas, Jackson, and Klamath Counties. It

CO1-22

10

CO1-19 Edge effects are discussed in section 4.6.1.2. As the comment notes, the effect extends into the adjacent forest. As the DEIS notes, the adverse effect tends to decline over time as young trees grow along the edge (page 4-541).

CO1-20 Edge effects are discussed in sections 4.5.1 and 4.6.1.2. As the DEIS notes, the adverse effect tends to decline over time as young trees grow along the edge (page 4-541). There is no on-site mitigation for the fragmentation and edge effect that would be created by the maintenance of the 30 foot wide low vegetation portion of the pipeline corridor. These effects would remain for the life of the pipeline. The BLM and Forest Service however have proposed off-site mitigations such as road decommissioning that would offset some of these impacts (see DEIS pages 4-206 to 4-208 for a discussion of this mitigation as it relates to reducing effects of edge and fragmentation).

CO1-21 The proposed mitigation actions of spreading course woody debris and creating snags are discussed in Table 2.1.4-1 of the DEIS. The purpose of these actions is to partially offset the loss of large woody debris and snags that would result from the construction of the pipeline. The proposed amendments of reallocating matrix lands to LSR would add late successional stands to the LSR system (see Table 4.1.3.7-12 for a comparison of the amount of LSOG forest impacted directly and indirectly by the pipeline and the amount of LSOG forest reallocated to the LSR system). The matrix areas proposed for reallocation to LSR were selected by Agency biologists familiar with the landscapes and high quality LSOG habitat was one of the primary factors considered.

CO1-22 The DEIS on page 4-40 states "This means that for BLM and NFS lands within the project area, individual sites of S&M species may be impacted or lost to construction clearing, but affected species are expected to persist within the range of the NSO despite the loss of these individual sites." The next sentence explained that the detailed analysis for species persistence was contained in section 4.7.4 of the DEIS and in Appendix K.

CO1 Continued, page 11 of 15

is simply asserted FERC (2014, P.4-40), without evidence, that these adjustments do not detrimentally impact the target species. The DEIS (FERC P. 5-15) further acknowledges that the project would negatively impact 11 Threatened, Endangered or Other Status Species. Compensating for the loss of habitat and impacts on these species the BLM and USFS agree to modify their Land Management Plans to accommodate the pipeline project. Although FERC (2014, P.4-40) claims that these amendments would be “specific to the Pacific Connector pipeline and would not be related to any other utility corridor project” the unfortunate precedent of establishing an exemption for corporate profit alone is established.

CO1-22
Cont'd

CO1-23

BLM and USFS Land Management Plans have been developed following extensive planning and discussion. They are designed to afford best management for forest health and species maintenance. They are not trivial paper exercises to be adjusted at the whim of, and merely to serve, the benefit of corporate executives in the fossil fuel industry. Treating Land Management Plans in such cavalier fashion sets an incredibly bad precedent; it creates the impression that such plans can be abrogated for no sound public interest purpose.

CO1-24

Throughout the discussion of effects FERC (2014) offers the claim of minimal impact (as in the Diminished Visual Quality Objective impacts) (P. 4 – 43/44), or allows waivers from requirements as in soil condition (P. 4-56) for compaction.

The questions that are troubling are these: Is there some proportion of wildlife habitat that it's acceptable to destroy and some number of Endangered Species that it's acceptable to compromise in order to promote corporate profit? If, every time we weigh the protection of habitat against corporate profit, we decide in favor of the latter, we totally undermine the purpose of the Endangered Species Act. When a project has so little social benefit and such immense social cost, we should not compromise our commitment to wildlife conservation.

A Brief Cost-Benefit Analysis:

Since the project is entirely designed to export natural gas, there is no domestic benefit to be gained in terms of increased local energy supplies. Profits from the export facility will accrue to the proposers, Veresen, Inc. of Calgary, Alberta and The Williams Companies, Inc. of Oklahoma and Calgary.

CO1-25

In terms of cost-benefit analysis, the primary equation seems to measure the local economic benefit against the global economic climate cost.

There is certain to accrue to local communities a small employment benefit from this project. For example, during the construction of the terminal (FERC 2014, P. 4 -787) 14% of the employees amounting to an average of 130 will be local hires, the rest coming from elsewhere (probably CA or WA). For the pipeline, the average local workforce of 140 represents 50% of the total hires (FERC 2014, P. 4 -807). Then, when completed, the terminal will employ 145, of

CO1-26

- CO1-23 The authorities for considering amendments to BLM and USFS LMPs are discussed in section 4.1.3.4 of the EIS. Specifically the implementing regulations for FLPMA at 43 CFR 1610.5-5 describe the process for amending BLM LMPs, and the regulations for NFMA at 36 CFR 219.10(f) describe the process for amending USFS LMPs. The proposed amendments would not apply to any other project. Other projects that may be proposed in the future will require case-by-case analysis under the National Environmental Policy Act.
- CO1-24 Your objection to amending the land management plans for the PCGP is noted. However we disagree that the analysis considering LMP amendments in the DEIS is a trivial paper exercise or is treating LMPs in a cavalier fashion. Considering LMP amendments on a case by case basis for a utility right-of-way project is consistent with BLM/FS agency land management planning guidance (FLPMA and NFMA).
- CO1-25 See response to CO1-5.
- CO1-26 The socioeconomic benefits of the Project, including job creation, are discussed in section 4.9 of the DEIS.

CO1 Continued, page 12 of 15

whom 100 will be local and the pipeline permanent staff will be five (5) (FERC 2014, P. 4 -807), giving a grand total of maybe 105 jobs for the local workforce. Although undoubtedly to those finding employment, the benefit of the project are substantial, this benefit must be weighed against the costs of the project.

CO1-26
Cont'd

Assuming very conservatively, that the only emissions from the project will be those outlined in the report (FERC 2014, P4-895) of 2.1 million tons of carbon dioxide and equivalent gases, and assuming that the social cost of carbon is reflected in the EPA calculation (EPA 2013a), the social climate cost of the project can be calculated as between \$25.2 and \$243.6 million annually. Of course, the indirect costs associated with increased production of fracked natural gas, the cost of fugitive methane leaks likely to increase as the project ages, and the cost of combustion of this fossil fuel overseas are not accounted in this estimate and will be multi – billions of dollars. Furthermore, these estimates do not include the incalculable cost in loss of forest and wildlife habitat.

CO1-27

In 2014, with the knowledge that we have regarding the hazards of global warming, we should be evaluating every individual and collective action we take in terms of its potential contribution to this defining problem of our era. This DEIS simply evades its responsibility to undertake such an analysis.

Concluding Remarks:

There can be little doubt that the combined Jordan Cove Export Terminal and Pacific Connector Pipeline Proposal will contribute substantially to the emissions of greenhouse gases – both directly in Oregon and indirectly elsewhere in the U.S and overseas. The evidence suggests that the Federal Energy Regulatory Commission is authorized to undertake a full accounting of the project and its cumulative impact on greenhouse gas emissions in company with other correlated projects and activities, and find that this project overall does not serve the public interest. Unfortunately, the DEIS fails to take into consideration the true costs imposed on the planet and future generations of inhabitants by this project. On behalf of the hundreds of volunteers with Southern Oregon Climate Action Now I urge the Federal Energy Regulatory Commission to revisit this project and undertake a full accounting of the cumulative greenhouse gas emission caused directly and indirectly by this project. In particular, the question is whether the public interest is served by promoting yet more greenhouse gas emissions.

Regrettably, this DEIS appears to have been written with the goal of approval in mind, rather than with an objective evaluation of the Public Benefits vs Public Costs as its goal. There appears to be no evaluation of this anywhere in the DEIS. I strongly urge FERC to revisit the proposals with a views to evaluating accurately the social cost against the public benefit.

CO1-28

CO1-27 See the response to IND1.

CO1-28 See response to IND3-2 and IND3-3.

CO1 Continued, page 13 of 15

Sources Cited:

Bagley K, 2014 The Most Influential Climate Science Paper Today Remains Unknown to Most People. *Inside climate news*. <http://insideclimatenews.org/news/20140213/climate-change-science-carbon-budget-nature-global-warming-2-degrees-bill-mckibben-fossil-fuels-keystone-xl-oil?page=show>

Carbon Budget 2014 *Global Carbon Budget*, The Carbon Budget Project
<http://www.globalcarbonproject.org/carbonbudget/14/hl-full.htm>

Carlowicz M 2010 *Global Temperatures*, Earth Observatory
<http://earthobservatory.nasa.gov/Features/WorldOfChange/decadaltemp.php>

Chemnick J 2014, *No sign of NEPA climate standards 4 years after CEQ guidance*.
<http://www.eenews.net/stories/1059995082>

Dixon 2001 Global Warming Commitment: Temperatures Would Rise Even with No Further Additional Greenhouse Gas Increases. NOAA. http://www.gfdl.noaa.gov/cms-filessystem-action?file=/user_files/kd/pdf/onepageb01.pdf

DOE 2014, *Order Conditionally Granting Long Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Jordan Cove LNG terminal in Coos Bay Oregon to Non-Free Trade Agreement Nations*. Office of Fossil Fuel Energy, U.S. Department of Energy
http://www.fossil.energy.gov/programs/gasregulation/authorizations/Orders_Issued_2014/ord3413.pdf

EPA 2013a, *The Social Cost of Carbon*.
<http://www.epa.gov/climatechange/EPAactivities/economics/scc.html>

EPA 2013b, *Inventory of USA Greenhouse gas emissions and sinks, 1990 – 2011*, USEPA, Washington DC. <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2013-Main-Text.pdf#page=162>

FERC 2014, *Jordan Cove Energy and Pacific Connector Gas Pipeline Project Draft environmental Impact Statement*. Federal Energy Regulatory Commission.
<https://www.ferc.gov/industries/gas/enviro/eis/2014/11-07-14-eis.asp>

Hansen J, Kharecha P, Sato M, Masson-Delmotte V, Ackerman F, Beerling D, Hearty P, Hoegh-Guldberg O, Hsu S, Parmesan C, Rockstrom J, Rohling E, Sachs J, Smith P, Steffen K, Van Susteren K, von K, James C. Zachos J. 2013 Assessing “Dangerous Climate Change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature. *Plos One* 8 (2)

CO1 Continued, page 14 of 15

<http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0081648&representation=PDF>

Howarth, RW 2014, A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas. *Energy Science and Engineering* 2 (2): 47 – 60

IEA 2009, *World Energy Outlook*, International Energy Agency, Paris, France, 691 pp
Miller SM, Wofsy SC, Michalak AM, Kort EA, Andrews AE, Biraud SC, Dlugokencky EJ, Eluskiewicz J, Fischer ML, Janssens-Maenhout G, Miller BR, Miller JB, Montzka SA, Nehkorn T, Sweeney C. 2013, Anthropogenic emissions of methane in the United States. *Proceedings of the National Academy of Science*, 110 (50) <http://calgem.lbl.gov/Miller-2013-PNAS-US-CH4-Emissions-9J5D3GH72.pdf>

IEA 2012 *World Energy Outlook 2012* International Energy Agency, Paris, France 668pp
http://www.iea.org/publications/freepublications/publication/WEO2012_free.pdf

Morales A 2014 *UN Tells Oil, Gas Industry to Leave Fuel in the Ground*, Bloomberg News
<http://www.bloomberg.com/news/2014-04-03/un-tells-oil-gas-industry-to-leave-fuel-in-ground.html>

Meinhausen, M, Meinhausen N, William Hare W, Raper S, Frieler K, Knutti R, Frame D, Allen M, 2009 Greenhouse-gas emission targets for limiting global warming to 2°C. *Nature* 45 1158 – 1163.

Sickinger, T 2014, Jordan Cove LNG in Coos Bay could quickly become one of the largest greenhouse gas emitters in Oregon. *Oregonian* Nov 18th 2014.
http://www.oregonlive.com/business/index.ssf/2014/11/jordan_cove_lng_in_coos_bay_co.html

United Nations 2009 United Nations Framework Convention on Climate Change: Copenhagen Accord. <http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>

Weissman and Webb, 2014, *Addressing Climate Change Without Legislation*; Berkeley Energy and Climate Institute, 75 pp.

CO1 Continued, page 15 of 15

World Bank 2012, *Turn Down the Heat: Why a 4°C Warmer World Must be Avoided*. The World Bank, Washington DC. 84pp

World Bank 2013, *Turn Down The Heat: Climate Extremes, Regional Impacts, and the Case for Resilience*. The World Bank, Washington DC. 254pp

World Bank 2014, *Turn Down the Heat: Confronting the New Climate Normal*. The World Bank, Washington DC. 275pp

According to The Global Carbon Project (<http://www.globalcarbonproject.org/>), current emissions amount to 35 Gigatons, and rising at 2.5% per annum.

Two thirds fossil fuels left in the ground (CICERO 2014 reported at <http://www.sciencedaily.com/releases/2014/09/140921145005.htm>). Budget exhausted in 30 years. Center for International Climate and Environmental Research

80% needs to be left in the ground Bagley (2013), based on Meinhausen (2009 Greenhouse-gas emission targets for limiting global warming to 2°C, (Meinhausen, M, Meinshausen N, William Hare W, Raper S, Frieler K, Knutti R, Frame D, Allen M, Nature 45 1158 – 1163).

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2

CO2 Klamath Siskiyou Wildlands Center, Richard K. Nawa

CO2-1 The statement in the DEIS quoted in your comment is accurate. The erosion control measures are expected to be effective in reducing sedimentation to levels that are within the natural range of variability at the watershed level, based on FERC's experience with many pipeline projects.



February 10, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Re: OEP/DG2E/Gas 3
Jordan Cove Energy Project, L.P.
Docket No. CP13-483-000
FERC/EIS-0256D

Dear Kimberly D. Bose:

We provide the following substantive comments for your response and consideration.

1. The DEIS is inadequate (i.e. defective) as a basis for preparation of a Biological Assessment for fishes (e.g. federally listed coho salmon) and other aquatic species because it is not based on the best available science.

a. Sediment impacts to miles of stream habitat are not adequately disclosed.

The DEIS 4-73 identifies three project phases when sediment could be created.

Corridor Clearing and Construction

The DEIS 4-73 falsely asserts that "as a result of application of the measures in the ECRP, soil erosion and sediment transport during corridor clearing and construction is expected to be minor and within the range of natural variability of the watersheds where the action occurs". First, the use of qualitative and subjective descriptors (e.g. "minor") is not adequate technical analysis for a project of this size and variability. Corridor clearing on steep erosive slopes is certain to generate more sediment than the same action on stable flat ground. The DEIS is defective because it fails to estimate the amounts of sediment generated from clearing and construction. Sediment generated from forest clearing (i.e. logging) on steep topography is well documented even with the measures identified (DEIS 4-73). For example, the DEIS 4-73 cites Robichaud et al. (2000) to assert that silt fences are 90-95 percent efficient in trapping sediment. Even if this trapping efficiency is true for Corridor Clearing and Construction, this means that up to 10% of the sediment generated by the project will reach streams. Ten percent delivery of sediment from a large disturbance area is likely to be significant for spawning coho salmon in very small streams.

CO2-1

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 2 of 11

Methods and models are available for estimating volumes (i.e. cubic yards) of sediment generated from clearing (aka logging), road building, road use with heavy equipment, and large scale excavations. Quantitative analysis commensurate with the scale of disturbance (xxx acres of initial deforestation, xx miles of temp. road, millions of cubic yards excavated) would reveal a range of sediment amounts generated for each pipeline segment based on site characteristics. Some pipeline segments, but certainly not all, may warrant a "minor" descriptor .

CO2-1
cont.

Scientific Controversy/Uncertainty about effectiveness of erosion control measures not addressed

The DEIS fails to acknowledge severe sedimentation of streams caused by the construction of a much smaller gas pipeline from Roseburg to Coos Bay. (See attached Register Guard Article dated 7/25/2004 "Enterprise goes Sour"). The DEIS fails to discuss scientific uncertainty and scientific controversy regarding the effectiveness of sediment control measures identified in the DEIS. Since sediment control measures failed catastrophically during the construction of a previous gas pipeline, similar sediment discharges would be expected for this gas pipeline because this pipeline traverses the same unstable steep terrain, this pipe is much larger, and the area of deforestation is much larger. The DEIS fails to address the credibility issue surrounding gas pipeline construction in southwest Oregon and associated severe sediment impacts to many miles of coho salmon streams. Assertions of "minor" sediment impacts for this pipeline are not scientifically or empirically substantiated.

CO2-2

Assertions of compliance with laws and regulations do not constitute science based disclosure of sediment impacts

The DEIS 4.7.3 falsely states "As a result of application of the measures in the ECRP, soil erosion and sediment transport during corridor clearing and construction is expected to be minor and *within the range of natural variability of the watersheds where the action occurs*" (emphasis added).

The reference to "the range of natural variability" is in the context of compliance with the NFS/BLM ACS. Assertions of compliance with the ACS does not exempt the DEIS from disclosing in plain English what the sediment impacts to miles of stream actually are. Furthermore, the best available science strongly suggests that the watersheds and stream channels traversed by the pipeline west of the Cascades are already degraded to a condition outside the "the range of natural variability" due to previous and ongoing logging and road building (see Columbaroli and Gavin 2010, attached). Since the 1950s sedimentation of streams has increased 5 fold due to logging and road building which is far greater than any sediment episode in the past 2,000 years. This means that any further human related deposition of sediment (i.e. pipeline construction) will cause an undisclosed number stream miles to be further outside the "the range of natural variability". The watersheds and critical coho salmon habitat impacted by the pipeline have no buffering capacity for additional sediment from pipeline construction due to historic and ongoing logging.

CO2-3

The DEIS fails to disclose the estimated amount of sediment discharged into streams from blasting and associated turbidity and suspended sediment. See DEIS 4.2.2.5

CO2-2 The smaller gas distribution pipeline permitted and built under local authority was not a FERC project. It was not constructed under the same high standards as pipelines authorized by FERC. The authorizing entities did not have the same level of experience and expertise as FERC. Also, the pipeline between Roseburg and Coos Bay did not undergo years of siting studies, this resulted in construction problems. Pacific Connector pipeline routing studies have been under development for several years.

CO2-3 The Roseburg to Coos Bay pipeline was a county project. It was not overseen by FERC and did not have the same level of analysis as FERC projects. The two projects are not comparable.

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

Blasting During Trench Excavation. This entire section is written from the perspective of impacts to human uses and structures and totally ignores the impact of blasting to increased sediment in streams.

The DEIS: 4-617 and 4-644 indicate that blasting could injure or kill fish, including coho salmon. The DEIS is not based on the best available science because it did not survey stream crossings or other areas where blasting could directly affect fish to determine the species present and densities of fish species that could be affected. ODFW has standard protocols for establishing juvenile densities in small streams but the DEIS failed to use them. The DEIS is defective because it did not estimate the numbers of fish that could be affected at the 30 sites identified (DEIS 4-644).

The DEIS is not based on the best available science because it has not established pre-project quantitative baseline upland erosion rates, baseline stream sedimentation rates and baseline data for other aquatic parameters for the stream miles that could be impacted.

The DEIS has not surveyed stream channels at stream crossings for physical and biological parameters. Baseline data for fishes and fish habitat appears limited to "proposed" pre-construction surveys at stream crossings (DEIS 4-608). While we agree these surveys are needed prior to construction, these surveys are inadequate to establish baseline (pre-construction) stream conditions above and below stream crossings. Spawning sites below stream crossings would be subjected to elevated sedimentation (DEIS 4-645). Survey techniques are available from ODFW, EPA and USFS to document habitat conditions for stream miles that could be affected from cumulative sediment effects during the life of the project. In the absence of baseline stream inventories, monitoring of sediment would be limited to anecdotal observations of EI's and not be based on the best available science. We further assert that all stream miles within 6th or 7th field watersheds that will have pipeline construction be stream surveyed with an emphasis on fine sediment deposition, pebble counts and quality/quantity of spawning/rearing habitat (see Anlauf et al 2011, Firman et al. 2011). The East Fork Cow Creek is a good example of a smaller stream needing its own watershed analysis due to multiple pipeline crossings. Anecdotal observations of EI's about erosion and turbidity, while necessary, are not sufficient with respect to "best available science". Protocols for establishing baseline conditions for streams are available for NEPA purposes from ODFW, USFS and EPA. The DEIS fails to disclose expected increases of erosion/sedimentation because it has not established baseline conditions for streams and stream reaches at pipeline crossings. The DEIS fails to report the erosion rates/sedimentation rates for occupied stream miles for "no action" and various alternatives or proposed actions.

Scientific monitoring during the life of the project cannot document adverse impacts if baseline conditions are not established prior to disturbance. The DEIS fails to disclose its non-scientific strategy of "no data" to mean "no sediment problem". At a minimum, habitat conditions for critical coho salmon habitat must be surveyed prior to

Page 3 of 11

CO2 Continued, page 3 of 11

- CO2-4 The adverse effects of blasting in stream channels are discussed in 4.6.2.3.
- CO2-5 The effects that blasting could have on fish is discussed in section 4.6.2.3. See the measures to avoid fish mortality on page 4-618. Also note that a permit from the state would be required for each crossing. The applicant has conducted additional detailed surveys (see updated Stream Crossing Risk Analysis Addendum PCGP February 13, 2015) of stream crossing considered to have notable risks of potential problems using the FWS stream crossing protocol evaluation and will implement procedures to reduce risks at these sites. These surveys supply baseline information at sites with determined risk of channel affects. Detailed monitoring will be implemented at these and other sites which can be compared to the pre-project information at these an other sites. As noted in response to comment CO2-6 below, fifth field watershed level assessment is commonly used by federal agencies for evaluation of current and future conditions. There are procedures in place including location of the route and erosion control and sedimentation plans to control upland erosion from project actions. Additional monitoring may be required by ODFW under its permitting process.

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 4 of 11

construction to agency protocol standards that would allow for future scientific monitoring.

The DEIS is not based on the best available science because its sediment analysis appears to be limited to 5th field watersheds. This scale of analysis is not appropriate for a linear project that would adversely affect coho salmon and other fishes that spawn in 6th and 7th field watersheds. The science issue is that pipeline construction across, upstream, or upslope of spawning and rearing fish (e.g. coho salmon) will be impacted due to large scale disturbance on steep slopes that will deliver sediment to stream channels located below them. Currently, there is ongoing erosion and sedimentation from the forested areas associated with fish bearing streams. Deforestation and pipeline construction is certain to increase erosion rates and increase sedimentation. The science question is how much and where? Repeated sediment denial in the DEIS with reference to "minor" impacts and repeated statements about reliance on anecdotal observations of EI's are not "best available science" when establishing ongoing and post-project sediment impacts to streams occupied by fish, especially the federally listed coho salmon. Pre- and post-stream surveys are a science based approach to monitor sediment impacts and the effectiveness of a suite of mitigations for this large project but none seem to have been identified in the DEIS.

CO2-6

Stream Channel Crossing

The DEIS 4:599-604 conducted modeling to estimate suspended sediment impacts to fish associated with stream crossing. These studies demonstrate that the dam and pump technique (aka dry cut) creates less suspended sediment than wet cut and effects would be non-lethal. However, there is no certainty that the proposed dam and pump technique will be used in every stream crossing. The DEIS is not based on the best available science because it does not require systematic suspended sediment monitoring during the first phase of construction where impacts are known to be the greatest due to the large amounts of fine sediments at these stream crossings. While anecdotal observations by EI's are certainly necessary, we assert that scientific monitoring of suspended sediment is also warranted for at least the first phase of construction where fish are at most risk due to high amounts of fine sediment.

CO2-7

The DEIS is not based on the best available science because it fails to adequately disclose, analyze or monitor fine sediment deposition subsequent to stream crossings. Increased fine sediment deposition below the stream crossing is likely to despoil fish spawning and rearing habitat. Assertions of "minor" impacts are not science based.

The DEIS 4-74 states:

"A literature review of pipeline stream crossing studies showed this method to be effective at controlling sediment. During construction, the crossing site is isolated from the stream by dams, and water is pumped around the site to maintain downstream flows. When dams and pumps are removed and the stream is allowed to flow across the crossing site, there

CO2-6

The DEIS is a science-based document that summarizes years of studies and considers the extensive research on fish, riparian habitat, streams and water quality. The fifth-field watershed is commonly used in the Pacific Northwest for analyzing project effects. Watershed analyses for fifth-field watersheds completed by federal agencies are a key component of managing federal lands under the Northwest Forest Plan and provide a good basis for an analysis of effects. Mitigation measures are included to reduce runoff from hillslope areas. The Project includes monitoring (table 2.5.2.1). Higher-risk stream crossings would have addition monitoring and mitigating (see section 4.62.3) and the extensive compensatory mitigation in table 2.1.4.1). Additional monitoring would be required by ODFW under its permitting process.

CO2-7

Water quality monitoring is a component of the state permit, the state will determine the extent of the monitoring needed. Also, the federal land management agencies will determine what additional monitoring is needed for stream crossings on federal land. Section 4.4.2.2 (the Water Quality section) discusses the effects on streams, including turbidity and sediment control. Additional information on the effects on streams and fish is found in section 4.6 (Wildlife and Aquatic Species) and in 4.7 (Threatened, Endangered, and Other Special Status Species).

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

may be a short-term (typically a few hours) pulse of sediment that will vary by substrate type. When compared to sediment mobilized by natural disturbance events such as fires and high-intensity precipitation, the sediment created is expected minor, short-term and well within the range of natural variation and comparable in scale to a minor bank slough."

Comparing the sediment discharge to natural disturbance events is disingenuous and misleading because during the summer when stream crossings would occur there are no natural sediment creating disturbances and streams would be expected to be clear with no natural induced increased sediment. Introducing sediment into a clear stream during stream crossings is an adverse impact that needs to be quantified with scientific monitoring and not summarily dismissed with subjective, qualitative and misleading descriptors (e.g., "minor", "within the range of natural variability").

The DEIS is not based on best available science because it has not established baseline physical and biological conditions at and below stream crossings. The DEIS cannot assert "minor" impacts if it has not established baseline conditions. A project of this size must establish baseline stream conditions for "miles" of stream habitat because of the numerous and variable stream conditions along the pipeline route.

Stream habitat is linear and needs to be analyzed as a linear phenomenon. The DEIS is not based on the best available science because it has not analyzed impacts to linear stream miles of fish habitat.

Post-Construction

The DEIS 4-74 states:

"The analysis discloses that in the first year or two following construction, a minor pulse of sediment could be observed following the first seasonal rain, but this sediment-laden water is likely to dissipate within a few hundred feet and would be indistinguishable from background levels. With the exceptions noted below at MP 119.7, 125.59 and 131.7, this is expected to be a very minor amount of sediment because of the requirements in the ECRP to establish and maintain erosion control structures, sediment barriers, effective ground cover and accomplish rapid revegetation. Pacific Connector has committed to maintain silt barriers until effective ground cover is reestablished. Silt fences are 90 to 95 percent efficient at trapping sediment (Robichaud et al. 2000). As a result of these measures, the Project corridor is not expected to become a chronic source of fine sediments."

The use of qualitative and subjective descriptors (e.g. "minor") is not adequate technical analysis for a project of this size and variability. Intense winter rainfall on areas deforested on steep erosive slopes is certain to generate more sediment than the same action on stable flat ground (e.g., farm pastures). The DEIS is defective

Page 5 of 11

CO2 Continued, page 5 of 11

CO2-8

While summer rains often do result in sediment delivery to streams, the model assumed average stream conditions, e.g. clear water. Fish are accustomed to certain levels of disturbance and the turbidity these events cause. Comparing the Project effects to the natural range of disturbance effects is consistent with good science. The DEIS does not state that introducing sediment into clear water is not without an adverse effect, it simply contrasts the level of effect with natural rates of sedimentation as modeled.

CO2-9

Streams are linear; however the pipeline crossing effects a very small portion of the stream length. The DEIS estimates the distance downstream the sediment would be transported at elevated level estimates the effects that this would have. Also see the response to the preceding comment.

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 6 of 11

because it fails to estimate the amounts of sediment generated from erosion during intense winter storms where several inches of rain can occur in a few hours. Sediment generated from forest clearing (i.e. logging) for the pipeline on steep topography is well documented even with the sediment control measures identified (DEIS 4-73). The DEIS 4-74 cites Robichaud et al. (2000) to assert that silt fences are 90-95 percent efficient in trapping sediment. Even if this trapping efficiency is true for post-construction during intense rainfall, this means that up to 10% of the sediment generated during intense rainfall will reach streams. Ten percent delivery of sediment from a large disturbance area is likely to be significant for spawning coho salmon in very small streams.

The DEIS is not based on the best available science because it fails to identify stream miles that could be affected with elevated sediment loads post-construction. Except for stream crossings during construction (DEIS), the DEIS fails to estimate the increase in turbidity (NTUs), the amount of suspended sediment (mg/mi), or the intensity of sediment laden water that could affect many stream miles located downstream or down slope of pipeline construction.

The DEIS fails to acknowledge severe post construction sedimentation of streams caused by the construction of a much smaller gas pipeline from Roseburg to Coos Bay. (See attached Register Guard Article dated 7/25/2004 "Enterprise goes Sour"). The DEIS fails to discuss scientific uncertainty and scientific controversy regarding the effectiveness of sediment control measures identified in the DEIS for coastal areas with known potential for catastrophic erosion/sedimentation. Since sediment control measures failed catastrophically during the construction of a previous gas pipeline, similar sediment discharges would be expected for this gas pipeline because this pipeline traverses the same unstable steep terrain, this pipe is much larger, and the area of disturbance is much larger. The DEIS fails to address the credibility issue surrounding gas pipeline construction in southwest Oregon and associated severe sediment impacts to coho salmon streams from a previous gas pipeline. Assertions of "minor" sediment impacts for this pipeline are not scientifically or empirically substantiated. Data from pipelines constructed in Washington are not directly applicable to the Oregon Coast Range geology.

The DEIS fails to acknowledge likely (during the life of the project) catastrophic sedimentation from landsliding that is associated with pipeline construction or sedimentation that is greatly exacerbated due to the presence of the pipeline (e.g., explosions, fire, loss of stabilizing tree roots and forest cover along pipeline corridor, need to relocate pipeline). See for example: Seismically Induced Landslides and Rockfalls (DEIS 4-265); Landslide Hazards (DEIS 4-266); Rapidly Moving Landslide Risk Assessment (DEIS 4-267); Deep-seated Landslide Risk Assessment (DEIS 4-268-278).

We are not asserting that the installation of the pipeline will "cause" landslides, although it certainly could. What is certain is that the pipeline will exacerbate sedimentation of streams when landslides engulf the pipeline corridor and landslide debris proceeds downslope to enter stream channels.

The DEIS discussion (DEIS 4: 265-278) is from the perspective of maintaining the pipeline infrastructure and avoiding damage to private property. The DEIS 4:269 states:

CO2-10

CO2-11

CO2-12

- CO2-10 The DEIS estimates the distance downstream the sediment would be transported at an elevated level and estimates the effects that this would have. Monitoring and mitigation would reduce adverse effects. Mitigation measures are included to reduce runoff from hillslope areas. The Project includes monitoring (table 2.5.2.1). Higher-risk stream crossings would have addition monitoring and mitigating (see section 4.62.3) and the extensive compensatory mitigation is proposed in table 2.1.4.1). Additional monitoring would be required by ODFW under its permitting process.
- CO2-11 While the analysis cannot rule out the possibility of a hillslope failure, the pipeline is being routed to avoid unstable areas to the extent practical. See the discussion in section 4.2.2.2.
- CO2-12 The effects of sediment entering streams from all sources is analyzed in section 4.6.2.3.

20150210-5151 FERC PDF (UnoOfficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 7 of 11

"For the purposes of landslide hazard evaluation in this report, a distinction is made between the hazard associated with a landslide and the risk associated with that hazard. In the following discussions, statements of risk apply to the potential for damage or failure of the pipeline from earth movements. It is recognized that the consequences of a pipeline failure may be catastrophic and involve fire and/or explosion."

CO2-12
cont.

The likely delivery of large amounts of sediment to stream systems from landsliding during the life of the project is not quantified. High risk stream miles for landslides are not spatially identified. The DEIS takes the position that landslides are only a threat to the pipeline and ignores the threat to water quality, coho salmon and critical fish habitat.

The DEIS contains no site specific erosion control structures that could ameliorate sedimentation of streams from large landslides. The DEIS fails to state that erosion control structures intended for surface erosion (DEIS 4-73) would likely be ineffective in preventing large landslide sediment from reaching stream channels (e.g. sediment fences). In fact, such erosion control structures could exacerbate the effects or landslides.

CO2-13

The DEIS 4:612-615 temperature analysis fails to consider landslides (e.g. debris flows, aka rapid moving landslides) that are either caused or exacerbated by pipeline construction. Debris flows could destroy shade for stream segments up to a mile or more of perennial stream as well as coho salmon spawning streams. The DEIS temperature analysis is not based on the best available science.

CO2-14

Similarly, the project is likely to adversely affect proposed critical habitat for coho salmon in the Oregon Coast ESU because debris flows, either caused or exacerbated by pipeline construction, could seriously degrade many miles of coho critical habitat over the life of the project (DEIS 4-645).

The DEIS fails to quantify post-construction sediment from road construction and use. Heavy vehicle use of unpaved access roads during construction will create large amounts of fines on the road surface that will be washed into streams the following winter. This fine sediment delivery is likely to be substantial and will significantly add to baseline sediment. The DEIS appears to lack any specific mitigations for roads that would disconnect the sediment laden road surface runoff from entering streams and subsequently adversely affecting critical coho salmon habitat. Dismissing road related sediment impacts as "minor" due to implementing BMPs is not science based. Even with BMPs roads are known to be a major fine sediment sources impacting small coho streams. Even with watering, large amounts of dust is likely to enter streams as fine sediment. Dust has been found to be substantial source of fine sediment in heavy use areas. The DEIS is not based on best available science because it does not disclose the miles of stream habitat (e.g. critical coho stream miles) that could be impacted by road construction and heavy road use. The DEIS is not based on best available science because it fails to identify pre-project surveys to establish baseline conditions for stream miles that could be affected by increased road related sediment caused by this project.

CO2-15

- CO2-13 The Project includes measures to avoid routing across unstable areas. While the analysis cannot rule out the possibility of a hillslope failure, the pipeline is being routed to avoid unstable areas to the extent practical. See the discussion of geologic risks in section 4.2.2.2.
- CO2-14 The Project includes measures to avoid routing across unstable areas. While the analysis cannot rule out the possibility of a hillslope failure, the pipeline is being routed to avoid unstable areas to the extent practical. See the discussion of geologic risks in section 4.2.2.2.
- CO2-15 The project includes limited new road construction. Road use during operations would be limited to inspections. Roads would be closed by barriers and Project-related mitigation includes many miles of road decommissioning (see the mitigation identified in table 2.5.2.1, as well as other mitigation to reduce to risk of sediment entering streams.

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 8 of 11

The DEIS fails to acknowledge that portions of the pipeline corridor will be used by OHV. Determined OHV users, especially hunters, will find access around boulders placed to prevent OHV use. Motorized use will damage erosion prevention measures and newly planted vegetation. Vehicle ruts will funnel winter flows. Ruts will become gullies delivering more than "minor" amounts of sediment to stream channels. The DEIS fails to disclose that effective control of OHV will be very difficult due to the remoteness of the pipeline corridor and numerous points of access. The DEIS fails to establish baseline monitoring protocols to assess OHV damage. The DEIS has failed to develop a coordinated plan with NFS, BLM and private land owners to prevent OHV. We assert that expected erosion control cannot be met if OHV access destroys newly planted vegetation, damages erosion control structures and create ruts, rills and gullies. Inevitable OHV use will be accompanied with the high risk of introducing POC root disease to critical stream habitat. The DEIS fails to disclose that introduction of the POC root disease would decrease shade along streams far more than stream crossings. Assuming effectiveness of mere boulders to prevent OHV use in SW Oregon is naive to say the least.

CO2-16

CO2-16

Section 4.10.2.5 of the DEIS discusses the concerns that unauthorized OHV use could adversely affect resources. Locations of particular concern are listed on page 4-850. The Recreation Management Plan describes measures to control unauthorized use. Sediment arising from unauthorized use that occurs despite these control measures is unlikely to have a significant effect on fish and would be more than offset by mitigation to reduce sediment from roads (see table 2.5.2.1).

The DEIS 4:74 acknowledges 3 exceptions to its assertions about "minor" sediment effects: "At MPs 119.7 (Trail Creek Watershed), 126.59 (Shady Cove - Rogue River Watershed), and 131.7 (Big Butte Creek Watershed), the Project, if constructed, would likely become a chronic source of sediment that may retard attainment of ACS objectives at those locations." We assert that there are many more exceptions where pipeline construction "would likely become a chronic source of sediment". First, it appears the DEIS is relying on federal agencies to identify locations "where the Project, if constructed, would likely become a chronic source of sediment". Only the Medford BLM district has come forward with field data indicating serious sediment impacts from pipeline construction. We assert that similar serious sediment producing sites exist on Coos Bay BLM district, Roseburg BLM district, Rogue River-Siskiyou National Forest and private land ownerships but these entities have not officially identified sediment issues with the pipeline for incorporation into the DEIS.

CO2-18

CO2-17

See the above response.

CO2-18

The FEIS has been revised in the relevant sections where these stream crossings were identified in the DEIS. The referenced text (DEIS page 4-74, 4-75) in Comment CO2-18 has been deleted in the FEIS based on the fact that the applicant adjusted the route at these locations to avoid these sensitive areas as recommended by FERC in the DEIS (Page 5-30, recommendation # 17). The commenter is incorrect in the assertion that the Medford BLM District is unique with respect to indicating sediment impacts on federal lands. Each BLM and Forest Service administrative unit systematically reviewed each crossing on federal lands and worked with FERC to disclose the associated impacts to water quality and other values related to Riparian Reserves within each 5th field watershed (See Section 4.3.5 and Appendix J for a full discussion of this topic).

The DEIS 4-289 states "Because the pipeline would cross a predominance of rugged terrain within BLM and NFS lands, there is potential for previously unidentified landslides or new landslides to affect the pipeline after it is installed." Similarly there are previously unidentified locations "where the Project, if constructed, would likely become a chronic source of sediment." Despite these scientific uncertainties, the FERC DEIS takes the indefensible position that since no others sediment sites have been identified by third parties, then no others exist. The DEIS implicit "sediment denial" position is scientifically indefensible for a project of this size. The DEIS is not based on the best available science. The best available science would certainly indicate that there are other known (but undisclosed) or unknown sites where "the Project, if constructed, would likely become a chronic source of sediment". The DEIS fails to discuss the significance of this scientific uncertainty with respect to sediment impacts to miles of stream habitat (e.g. critical coho salmon habitat).

CO2-19

CO2-19

The DEIS does not say that there are no other areas where problems may occur. Rather it identifies known problem areas, requires surveys to identify any additional areas, and includes measures to avoid, minimize and mitigate soil problems. For example, see section 4.2.2.2.

20150210-S151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

The DEIS is not based on the best available science because it has not established quantitative baseline erosion rates, baseline stream sedimentation and baseline data for other aquatic parameters for the stream miles that could be affected. The DEIS proposes but has not surveyed stream channels at stream crossings for physical and biological parameters. Protocols for establishing baseline conditions for streams are available for NEPA purposes from ODFW, USFS and EPA. The DEIS fails to disclose expected increases of erosion/sedimentation because it has not established baseline conditions for stream miles that could be affected above and below stream crossings. The DEIS fails to report the baseline erosion rates/sedimentation for stream miles with "no action" and various alternatives or proposed actions. Scientific monitoring during the life of the project cannot document adverse impacts if baseline conditions are not established prior to disturbance.

The DEIS is not based on the best available science because its sediment analysis is at 5th field watersheds that are too large to reveal significant impacts to spawning fish. This scale of analysis is not appropriate for a linear project that would adversely affect coho salmon that spawn in 6th and 7th field watersheds.

b. The DEIS fails to disclose that impacts to private land stream miles will be greater than to NFS and BLM stream miles. Due to lower protection standards, significant impacts are likely on private land stream miles.

The DEIS has numerous instances and whole sections documenting a suite of protective standards for NFS and BLM lands. Much lower protective standards for private lands are explicitly stated or implied. For example, the DEIS:610 states: "A riparian strip at least 25 feet wide on private lands and 100 feet wide on federally managed lands, as measured from the edge of the waterbody, would be permanently revegetated." The best available science would clearly show that the 100 ft strip is adequate to protect and restore aquatic resources while a 25 ft strip is not. We assert that the ACS as negotiated by BLM and NFS is the best available science (see Frissell et al. 2014 which further supports 100 ft or more buffers).

The DEIS fails to discuss quantitatively the higher risk or higher expected impacts to stream miles on private lands due to lower and scientifically inadequate protection standards. The tradeoffs of reduced environmental protection on private lands versus increased costs are not made explicit as required by NEPA.

We know that FERC would not allow lesser engineering or safety standards for pipeline construction on private lands. We assert that the FERC must insist that the same protective standards for public lands be implemented on adjacent private lands. Implementation, contracting, EI monitoring, impact assessment, legality, etc. would be simplified by using the same standards for all land ownerships where practical, rather than reducing environmental standards on private lands to reduce short term construction costs while burdening everybody else with conflicting standards and inevitable stream degradation.

2. The final Coho Salmon Recovery Plan has been released
http://www.nmfs.noaa.gov/pr/recovery/plans/cohosalmon_soncc.pdf

Page 9 of 11

CO2 Continued, page 9 of 11

- CO2-20 Modeling based on best available science was used to examine this issue. ODFW baseline information on streams and survey data was used where available. Also, ODFW would require site-specific survey information as part of their permitting process.
- CO2-21 Riparian buffer widths and other differences between federal and private lands are the result of differing laws and regulations. These laws and regulations are not subject to FERC's authority.
- CO2-22 Riparian buffer widths and other differences between federal and private lands are the result of differing laws and regulations. These laws and regulations are not subject to FERC's authority.
- CO2-23 The 1,800-page final recovery plan was issued shortly before the DEIS was finalized. The DEIS used the draft plan, we reviewed the final version in preparing the FEIS.

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 10 of 11

<p>The FEIS must rely on this document as the "best available" science and must review the recovery plan for possible recovery actions relevant to mitigation for pipeline and road construction.</p>	<p>CO2-23 cont.</p>
<p>3. We suggest that Pacific Connector file with the Secretary a commitment to acquire conservation easements on a substantial number of private land stream miles that are occupied critical habitat for coho salmon. These conservation easements along coho salmon spawning streams would be assigned to FWS for administration.</p>	
<p>We dispute the implied or stated assertion that sediment effects of the proposed action can be fully mitigated on-site. Once pipeline associated sediment is delivered to stream channels it cannot be mitigated. The use of log placement to mitigate increased sediment is not a proven technique because of the transient nature of sediment and the finite ability of log placement to retain very much sediment. We believe that conservation easements on private lands would best secure coho habitat well into the future and help compensate for despoiled stream miles from pipeline construction.</p>	<p>CO2-24</p>
<p>4. The DEIS needs to be updated with recent discovery of wolves in the vicinity of Keno.</p>	
<p>The biggest threat to newly arrived wolves in southern Oregon are shooters. We suggest that workers be instructed not to shoot any animal that resembles a large "coyote".</p>	<p>CO2-25</p>
<p>5. Pacific Connector needs to survey all perennial wetlands and streams east of Buck Lake into Klamath County for federally listed Oregon spotted frogs that could be affected by pipeline construction or road building.</p>	
<p>Many of the waterbodies being crossed by the pipeline (e.g. Lost River) are historic habitat for Oregon spotted frogs and some frogs may continue to persist at low densities at these historic sites. The DEIS 4-652 cannot assume that because critical habitat has not been identified that Oregon spotted frogs are not present. New detections of Oregon spotted frogs is likely for Klamath County, especially on private lands.</p>	<p>CO2-26</p>
<p>6. The DEIS fails to disclose that logging associated with pipeline construction will contribute to the need to federally list the red tree vole in southern Oregon.</p>	
<p>The DEIS 4:39 states that 103 red tree vole sites will be adversely affected which requires NW forest plan amendments to allow the destruction of habitat and the killing of voles. This is an unprecedented amount of take and certainly contributes to reduced viability of red tree voles in southern Oregon. The red tree vole in southern Oregon is a candidate species for listing.</p>	<p>CO2-27</p>

<p>CO2-24</p>	<p>Comment noted.</p>
<p>CO2-25</p>	<p>Section 4.7.1.1 states that wolves have been documented in the area crossed by the pipeline. The presence of a wolf in Klamath County (which is where Keno is located) is noted. Section 4.7 has been updated to reflect recent wolf activity in the vicinity of the pipeline. As the DEIS states, wolves in the Project area are protected by both federal and state laws.</p>
<p>CO2-26</p>	<p>Federally listed species are managed by the USFWS. Surveys and avoidance, minimization and mitigation requirements will be identified in the BO prepared by the USFWS following the release of the FEIS. Oregon spotted frogs are discussed in section 4.7.1.4.</p>
<p>CO2-27</p>	<p>The impacts the project would have on red tree voles are discussed in section 4.7.4 of the DEIS (see pages 4-710 to 4-712) and in Appendix K. The results of the analysis indicated that, despite impacts on an estimated 103 red tree vole sites (56 habitat areas), the remaining sites of the red tree vole in the NSO range would continue to provide a reasonable assurance of species persistence.</p>

20150210-5151 FERC PDF (Unofficial) 2/10/2015 2:10:38 PM

CO2 Continued, page 11 of 11

Citations (attached as paper copy and electronic files)

Anlauf, K.J., W. Gaeuman, and K.K. Jones. 2011. Detection of regional trends in salmonid habitat in coastal streams, Oregon. *Transactions of the American Fisheries Society* 140:52-66.

Anlauf, K. J., K. K. Jones, and C.H. Stein. 2009. The Status and Trend of Physical Habitat and Rearing Potential in Coho Bearing Streams in the Oregon Coastal Coho Evolutionary Significant Unit. OPSW-ODFW-2009-5, Oregon Department of Fish and Wildlife, Salem.

Columbarolia D. and D. Gavin. 2010. Highly episodic fire and erosion regime over the past 2,000 y in the Siskiyou Mountains, Oregon.
www.pnas.org/cgi/doi/10.1073/pnas.1007692107 PNAS
www.pnas.org/lookup/suppl/doi:10.1073/pnas.1007692107/-/DCSupplemental.

Firman, Julie C. , Steel, E. , Ashley, J. , Jensen, David W. , Burnett, Kelly M. , Christiansen, Kelly , Feist, Blake E. , Larsen, David P. and Anlauf, Kara (2011) 'Landscape Models of Adult Coho Salmon Density Examined at Four Spatial Extents', *Transactions of the American Fisheries Society*, 140: 2,440 - 455, First published on: 13 April 2011
DOI: 10.1080/00028487.2011.567854
URL: <http://dx.doi.org/10.1080/00028487.2011.567854>

Frissell, C. A. and 8 others. 2014. CONSERVATION OF AQUATIC AND FISHERY RESOURCES IN THE PACIFIC NORTHWEST: Implications of New Science for the Aquatic Conservation Strategy of the Northwest Forest Plan. FINAL REPORT
July 30, 2014. Coast Range Association. <http://coastrange.org/documents/ACS-Finalreport-44pp-0808.pdf>

Ross, W. 7/25/2004. Enterprise goes sour. The (Eugene) Register Guard.



Richard K. Nawa
Staff Ecologist
Klamath Siskiyou Wildlands Center
PO Box 102
Ashland, OR 97520

20141222-0075 FERC PDF (Unofficial) 12/22/2014

CO3

CO3 Umpqua Watersheds, Inc., Joseph Patrick (Pat) Quinn

CO3-1 See the response to IND43-8.

001-111
FILED
RECEIVED OF THE
COMMISSION
ON DEC 22 P 1:01
JORDAN COVE ENERGY
PROJECT
DOCKET NO. CP13-483-000
PACIFIC CONNECTOR GAS PIPELINE, L.P.
DOCKET NO. CP13-492-000
FERC/EIS-0256D

Umpqua Watersheds, Inc.
P.O. Box 101
Roseburg, OR
97470
541 672 7065
uw@umpqua-watersheds.org

12/17/15
Dear FERC:

I am the volunteer Conservation Chair for Umpqua Watersheds, Inc. (UW) of Roseburg, OR. UW is a volunteer 501 C3 non-profit environmental education, conservation, restoration and outreach group of some 850 active and interested members.

I write to request that FERC extend the filing period end date for comments (2/13/15). As an all-volunteer organization, UW feels that the very size and complexity of the DEIS for the Jordan Cove and Pacific Connector projects (doc. #'s CP13-483-000 AND CP13-492-000) might well preclude the kind of careful and detailed commentary that would be most helpful in judging the true environmental impact(s) of these proposals. UW feels that an extension of the comment period from the current February, 2015 date to May or June of 2015 would, in our opinion, offer adequate time for a quality response and represent an inclination, by FERC, to place the safety and other concerns of individual citizens and non-profit conservation and other groups on a more equal footing with the commercial interests of the well financed, well staffed applicants.

CO3-1

Thanking you in advance for your kind attention to this important matter, I remain

Yours truly,


Joseph Patrick (Pat) Quinn
Conservation Chair, Umpqua Watersheds, Inc.

**Jordan Cove Energy Project
should not be allowed to be
built. This project has been
one lie after another. This
project will damage the Coos
Bay Estuary.**

CO4

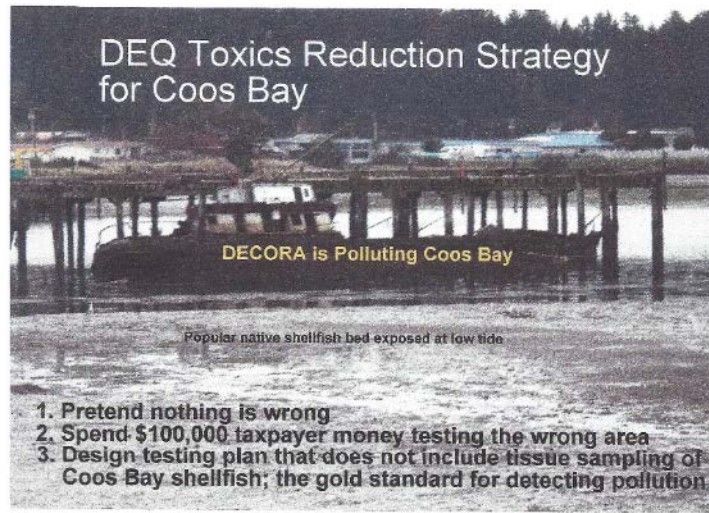
CO4-1



CO4 Clam Diggers Association of Washington

- CO4-1 As explained in section 4.4 of the DEIS, the construction of the Jordan Cove terminal access channel and the Pacific Connector pipeline across Haynes Inlet would have temporary impacts on the bay. On February 3, 2015, Jordan Cove filed the results of its 2014 geotechnical testing program at the Ingram Yard. We have analyzed those results and updated section 4.3 of the FEIS as appropriate. The remaining portions of this comment addresses contamination sampling that would be conducted by the ODEQ that have no relationship with the Jordan Cove-Pacific Connector Project.

CO4 Continued, page 2 of 2



We have asked Coos Bay DEQ over and over to conduct pollution tests where local people and tourists harvest bay clams. Worldwide, the standard for testing for pollution in a marine environment (bays) is testing shellfish tissue. Shellfish bio-accumulate pollution because they are water filter feeders.



We know Coos Bay was polluted from the 5 Superfund sites that were delisted after the sites were supposedly cleaned. These sites contained many hazardous compounds (biocide tributyltin, biocide copper, lead, mercury, benzo-pyrene, nickel, etc.) These compounds are a human health concern and of high concern for children and pregnant women. We know from DEQ statements that the followup testing to ensure the cleanup was never done because the state ran out of funding.

What we don't know is whether or not the shellfish are still polluted like they were when the tissue was tested in the early 90's.

We would like DEQ to begin their contaminate testing on the shellfish before they test 12 miles upstream. Public safety should not take a back seat to DEQ funding problems.

Oregon DEQ Director
Dick Pedersen
811 S.W. 6th Ave
Portland, OR 97204-1390

Chuck Erickson - Director Clam Diggers Association of Oregon
PO BOX 1083
Coos Bay, OR 97420

POST CARD

20141224-0034 FERC PDF (Unofficial) 12/24/2014

ORIGINAL

FILED
SECRETARY OF THE
COMMISSION

2014 DEC 24 PM 5:52

FEDERAL ENERGY
REGULATORY COMMISSION

Secretary Kimberly Bose
Federal Energy Regulatory Commission
888 First Street NE
Washington DC 20426

Climate Crisis Working Group
966 Jackson
Eugene OR 97402

COS

CP13-492
CP13-493

The pipeline for liquid natural gas (LNG) proposed for Jordan Cove on the Oregon coast must be halted! Not only is this an area prone to earthquakes, but the pristine sand dunes where the terminal will be sited is also not a stable location.

COS-1

This proposal endangers humans, animals, ocean and air.

Please stop it before it is built!

Jean Kleban
Kate Rogers Gessert
Cory D. Thompson
M. J. Robert
Jared Brown

COS Climate Crisis Working Group

- COS-1 Earthquakes are discussed in section 4.2.1 of the EIS. The proposed LNG terminal site does not contain pristine sand dunes as this has been an industrial site since the early 1960s (see section 4.1.1 of the EIS). The stability of the site is discussed in section 4.3.



Northwest
Eugene, Oregon

Southwest
Taos, New Mexico

Northern Rockies
Helena, Montana

Southern Rockies
Durango, Colorado

Defending the West www.westernlaw.org

CO6

Western Environmental Law Center

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington DC 2046

RE: Unavailability of the Biological Assessment of the Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline, Docket No.'s CP13-483-000 and CP13-492-000.

Dear Ms. Bose:

December 30, 2014

On behalf of Waterkeeper Alliance, Oregon Coast Alliance, Rogue Riverkeeper, Klamath Riverkeeper, Columbia Riverkeeper, Oregon Wild, Bob Barker, Klamath-Siskiyou Wildlands Center, Friends of Living Oregon Waters, Cascadia Wildlands, Oregon Shores Conservation Coalition, Food and Water Watch and Sierra Club we are writing to inform you about a deficiency in the draft environmental impact statement (DEIS) for the Jordan Cove/Pacific Connector project. Based on this legal deficiency, you must toll the comment period until the biological assessment is made available to the public and then give the public a full 120 days to comment.

The regulations implementing the National Environmental Policy Act (NEPA) state that

If an agency prepares an appendix to an environmental impact statement the appendix shall:

- (a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference (§ 1502.21)).
- (b) Normally consist of material which substantiates any analysis fundamental to the impact statement.
- (c) Normally be analytic and relevant to the decision to be made.
- (d) Be circulated with the environmental impact statement or be readily available on request.

40 C.F.R. § 1502.18. The NEPA regulations also state that if the agency elects to incorporate by reference material relevant to the environmental impact statement (EIS):

Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably

CO6-1

CO6 Western Environmental Law Center

CO6-1 The FERC is preparing a biological assessment (BA) to be submitted to the FWS and NMFS to initiate formal consultations under the Endangered Species Act (ESA). The BA was never referenced as an appendix to the DEIS. It will be a stand-alone document. There is nothing in the ESA or its implementing regulations that require public comments on the BA. While the DEIS indicated that the FERC originally intended to produce the BA in November 2014; in fact, it has been delayed. There is no statutory or legal requirement for when a BA should be submitted to the Services. Once completed, the FERC will post an electronic copy of the BA on our eLibrary system, available on the FERC webpage for public viewing through the internet. The DEIS contained a summary of the findings of our BA in section 4.7. Therefore, the public had the opportunity to comment on our determinations of impact on individual federally-listed species during the 90-day DEIS comment period.

CO6 Continued, page 2 of 3

available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference.

40 C.F.R. § 1502.21 (emphasis added). Taken together, these provisions require the Federal Energy Regulatory Commission (FERC) to make available, during the public comment process, information that is referenced in the EIS and is material to the public's understanding of the environmental consequences of the proposed action.

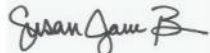
As you know, FERC recently released its DEIS for the Jordan Cove/Pacific Connector liquefied natural gas (LNG) project. The DEIS references the biological assessment (BA) for the project at least 31 times, and is implicated in hundreds of pages of analysis, and yet the BA is not available to the public. It is not available on FERC's web page, or through any other public means. We understand that the BA is not yet complete.

The failure to provide information relevant to the public's review of an EIS, and is referenced in – and has been incorporated by reference by – the EIS, violates the National Environmental Policy Act. The Oregon Federal District Court recently held based on similar facts that the failure to provide specialist reports – similar to the biological assessment for the Jordan Cove/Pacific Connector project – violates the law. *League of Wilderness Defenders v. Connaughton*, No. 12-2271-HZ (D. Or. Dec. 9, 2014). Failure to make this information available to the public is arbitrary, capricious, and not in accordance with law. 5 U.S.C. § 706(2)(A).

Given the importance of the biological assessment to public understanding of the environmental consequences of the Jordan Cove/Pacific Connector project, we hereby request that you toll the comment period until the document is made available to the public and then give the public a full 120 days to comment.

We look forward to reviewing the biological assessment when it becomes available, and to submitting comments to FERC on the DEIS after an extended comment period.

Sincerely,



Susan Jane M. Brown, Staff Attorney
Western Environmental Law Center
Phone: 503-914-1323
Cell: 503-680-5513
brown@westernlaw.org
www.westernlaw.org

For Parties:

CO6-1
cont.

CO6 Continued, page 3 of 3

Lesley Adams, Waterkeeper Alliance
Cameron La Follette, Oregon Coast Alliance
Forrest English, Rogue Riverkeeper
Kerul Dyer, Klamath Riverkeeper
Dan Serres, Columbia Riverkeeper
Doug Heiken, Oregon Wild
Bob Barker, affected landowner
Joseph Vaile, Klamath-Siskiyou Wildlands Center
Joe Serres, Friends of Living Oregon Waters
Francis Eatherington, Cascadia Wildlands
Phillip Johnson, Oregon Shores Conservation Coalition
Julia DeGraw, Food and Water Watch
Nathan Matthews, Sierra Club

CC:

Senator Ron Wyden
Senator Jeff Merkley
Congressman Peter DeFazio
Oregon Department of Justice

20150114-5226 FERC PDF (Unofficial) 1/14/2015 3:32:19 PM



CO7

CO7 Western Energy Alliance, Denver, CO

CO7-1 Comment noted.

Via: FERC eComment System

January 15, 2014

Federal Energy Regulatory Commission
888 1st Street, NE
Washington, D.C. 20426

Re: Comments on the Draft Environmental Impact Statement for the Jordan Cove Liquefaction and Pacific Connector Pipeline Projects (Docket Numbers CP13-483-000 and CP13-492-000)

Dear Commissioners:

Western Energy Alliance submits the following comments on the Draft Environmental Impact Statement (DEIS) for the Jordan Cove Liquefaction and Pacific Connector Gas Pipeline projects. We support the development of both projects, which would provide thousands of construction and permanent jobs and economic benefits in both Oregon and the western states that produce natural gas. We encourage the Federal Energy Regulatory Commission (FERC) to proceed with the applications for these two projects.

CO7-1

The Alliance represents over 480 companies engaged in all aspects of environmentally responsible exploration and production of oil and natural gas in the West. We represent independent companies, the majority of which are small businesses with an average of fifteen employees. Some of the natural gas produced by our member companies is transported to the West Coast through the Ruby Pipeline, which receives natural gas from Utah, Wyoming and Colorado. Current and future production in these and other western states can provide a reliable source of natural gas to send to Jordan Cove for many decades to come.

As stated in the DEIS, both projects were extensively evaluated with respect to air quality, water quality, land use, wildlife impacts, recreational and visual resources, cultural resources, safety and socioeconomic impacts. FERC found limited environmental impacts, which are reduced by the applicants' proposed mitigation programs. The developers of both projects are committed to safety and environmental stewardship, and both will implement inspection and monitoring programs, along with the mitigation plans, to ensure continued protection of workers, the public and the environment.

The Jordan Cove liquefaction plant is unique in that it will be the only terminal for Liquefied Natural Gas (LNG) exports on the West Coast of the lower 48 states. Jordan Cove and the Pacific Connector Gas Pipeline will provide the only route for some of the natural gas produced in the Rocky Mountain region to be exported. Producers in the Piceance Basin in northwest Colorado currently have extensive and underused natural gas pipeline and processing capacity, which would allow them to readily ramp up supply to pipelines that feed the interstate Ruby Pipeline. Only 60 percent of the Ruby Pipeline

1775 Sherman St., Ste 2700 Denver, CO 80203
P 303.623.0987 F 303.893.0709 W westernenergyalliance.org

20150114-5226 FERC PDF (Unofficial) 1/14/2015 3:33:19 PM

CO7 Continued, page 2 of 2

CO7-2 Comment noted.

capacity has been used over the last two years, thus it will be able to provide a route to the west for a large portion of any new production in the mountain states.

Numerous studies have found that LNG exports will boost the U.S. economy, provide high paying jobs and increase our energy security, all with a very small increase in the price of natural gas. The Department of Energy's LNG export study found only modest price increases, \$2.2 to \$1.11 per Mcf after five years of exports.¹ A study by ICF International found that 79% - 88% of proposed LNG export volumes would be offset by increases in domestic natural gas production, moderating any price increases caused by the increased demand of exports.² Much of this increase in production would likely come from currently untapped natural gas fields in the Rocky Mountain region.

Approval of the Jordan Cove Liquefaction and Pacific Connector Pipeline projects are a vital step to increasing our energy security and boosting our western states' economies. We urge FERC to expeditiously proceed with their applications. Thank you for consider our comments.

CO7-2

Sincerely,



Kathleen M. Sgamma
VP of Government & Public Affairs

¹ [DOE LNG Export Study Part 2](#), NERA Economic Consulting, December 3, 2012.

² [U.S. LNG Exports: Impacts on Energy Markets and the Economy](#), ICF International, May 15, 2013.

WESTERN ENERGY ALLIANCE

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

CO8

February 2, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Public Reference Room
888 First Street, NE., Room 1A
Washington, DC 20426

**RE: Jordan Cove Energy and Pacific Connector Gas Pipeline Project
Draft Environmental Impact Statement**

Greetings,

Please consider the following comments from the Klamath Siskiyou Wildlands Center (KS Wild) regarding the Draft Environmental Impact Statement (DEIS) for the Jordan Cove Energy and Pacific Connector Gas Pipeline Project.

Forest Plan Amendments

*[P]rojects or activities that occur on BLM or NFS lands must be consistent with the respective LMP where the project or activity occurs. As proposed, the Pacific Connector Pipeline Project would not be consistent with certain elements of the affected BLM and Forest Service LMPs.
~Jordan Cove DEIS page 2-36.*

As acknowledged on page 2-36 of the DEIS, the proposed pipeline construction across federal public forestlands involves numerous actions that are inconsistent with the planning documents and management intent for those lands. The proposed violations of the underlying land use plans are significant, irreversible and irretrievable and may retard and prevent accomplishments of the goals and objectives of the LMPs.

CO8-1

Rather than amending the controlling RMP/LMP for the forests impacted by the pipeline project, the DEIS whittles the Plans down piece by piece without having to go through the rigor of public input and review of developing a new Forest Plan. *League of Wilderness Defenders, et al. v. Connaughton, et al.*, No. 3:12-cv-02271, *50 (D. Or. 2014). ("the ROD and final EIS do not adequately articulate a rational connection between the characteristics of the project area and the choice to adopt site-specific, rather than forest-wide, amendments.").

CO8-2

NFMA imposes substantive constraints on management of forest lands, such as a

1

CO8 Klamath Siskiyou Wildlands Center, George Sexton

CO8-1 The authorities for considering amendments to BLM and USFS LMPs are discussed in section 4.1.3.4 of the EIS. Specifically the implementing regulations for FLPMA at 43 CFR 1610.5-5 describe the process for amending BLM LMPs, and the regulations for NFMA at 36 CFR 219.10(f) describe the process for amending USFS LMPs. The BLM and USFS recognize, and have proposed amendments, where the proposed project is inconsistent with the current land management plans. The environmental effects of the proposed pipeline have been disclosed in the EIS. The BLM and Forest Service have not proposed violations of the LMPs. The proposed LMP amendments are addressed in the DEIS in sections 2.1.3, 2.1.4, and 4.1.3. The significance of the amendments (for the Forest Service) are discussed in section 4.1.3.4. The compensatory mitigation plans proposed by the BLM and Forest Service have been designed to ensure the objectives of the LMPs could continue to be met if the PCGP is approved and constructed (see section 2.1.4 and Appendix F of the DEIS).

CO8-2 The authorities for considering amendments to BLM and USFS LMPs are discussed in section 4.1.3.4 of the EIS. Specifically the implementing regulations for FLPMA at 43 CFR 1610.5-5 describe the process for amending BLM LMPs, and the regulations for NFMA at 36 CFR 219.10(f) describe the process for amending USFS LMPs. Forest Plan amendments to the controlling RMP/LMPs have been proposed (see DEIS section 2.1.3). These proposed amendments are going through public input and review as part of the NEPA process. Since the PCGP project would affect a very small portion of each of the affected BLM and FS management units and would apply only to the PCGP project, developing a new LMP is not appropriate.

20150203-5164 PERC PDF (Unofficial) 2/3/2015 4:37:00 PM

CO8 Continued, page 2 of 9

requirement to insure biological diversity. *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 898 (9th Cir. 2002). The NFMA and its implementing regulations subject forest management to two stages of administrative decision making. At the first stage, the Forest Service is required to develop a Land and Resource Management Plan, also known as a Forest Plan, which sets forth a broad, long-term planning document for an entire national forest. At the second stage, the Forest Service must approve or deny individual, site-specific projects. These individual projects must be consistent with the Forest Plan. *Great Old Broads for Wilderness v. Kimbell*, 709 F.3d 836, 851 (9th Cir. 2013) (“the NFMA prohibits site-specific activities that are inconsistent with the governing Forest Plan”); see also *Neighbors of Cuddy Mtn. v. Alexander*, 303 F.3d 1059, 1062 (9th Cir. 2002) (“[s]pecific projects ... must be analyzed by the Forest Service and the analysis must show that each project is consistent with the plan”). The Forest Service’s “interpretation and implementation of its own forest plan is entitled to substantial deference.” *Great Old Broads*, 709 F.3d at 850 (9th Cir. 2013) (internal quotation marks omitted).

League of Wilderness Defenders, et al. v. Connaughton, et al., No. 3:12-cv-02271, *12 (D. Or. 2014).

The agency must articulate a “rational connection between the facts found and the choice made” to enact a geographically-limited, site-specific amendment rather than a general amendment to the Forest Plan as a whole. *Lands Council v. Martin*, 529 F.3d 1219, 1228 (9th Cir. 2008). Any Forest Plan amendment that results in a “significant change” requires the agency to prepare an EIS; non-significant amendments only require the simpler notice and comment process. *Lands Council v. Martin*, 529 F.3d at 1227.

League of Wilderness Defenders, et al. v. Connaughton, et al., No. 3:12-cv-02271, *50 (D. Or. 2014) (agency improperly limiting the geographic scope of the amendments to the project area even though the purported need for the amendments is forest-wide, not site-specific.”).

“the repeated use of site-specific amendments allows the Forest Service to bypass any public consideration of the regional or forest-wide management implications of the amendments, and is inconsistent with NFMA’s requirements for integrated forest plans. *League of Wilderness Defenders, et al. v. Connaughton, et al.*, No. 3:12-cv-02271, *54 (D. Or. 2014).

“a close reading of *Lands Council v. Martin* indicates there must be at least some characteristics unique to a site to support a site-specific amendment. *Lands Council v. Martin*, 529 F.3d at 1228. . . . Simply explaining the purpose of the Project, the desired conditions for the Forest, or stating that the amendment is site-specific because it was designed for a specific site, does not satisfy the rational connection between the facts found and the choice made required by *Lands Council*.”

League of Wilderness Defenders, et al. v. Connaughton, et al., No. 3:12-cv-02271, *54-55 (D. Or. 2014).

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

Late Successional Reserves

The NSO ROD indicated that LSRs are to be managed to protect and enhance old-growth forest conditions.

The ROD stipulates that non-silvicultural activities in LSR, such as the installation of a pipeline or other utilities, would only be allowed where those activities could be demonstrated to be neutral, or may have benefits for the creation and maintenance of late-successional habitat.
~Jordan Cove DEIS page 3-63

As acknowledged on page 3-63 of the Jordan Cove DEIS, the Northwest Forest Plan (NWFP) requires that developments (such as pipelines) in LSRs must be neutral or beneficial "for the creation and maintenance of late-successional habitat." That substantive requirement of the NWFP is not met by the proposed action.

As stated on page 4-15 of the DEIS, the NWFP ROD (at C-17) requires that:

Developments of new facilities that may adversely affect LSRs should not be permitted... pipelines... may be approved when adverse impacts can be minimized and mitigated. These [projects] would be planned to have the least possible adverse impacts on LSRs.

It is critical to note that the NWFP ROD anticipated pipeline construction and specifically addresses it at C-17. Hence if pipeline construction was intended to be exempt from LMPs the ROD would have indicated that. The NWFP ROD does not provide for plan amendments that exempt pipeline construction from standards and guidelines pertaining to riparian reserves, survey and manage, soil protections or LSRs. Rather, the ROD anticipated pipeline construction and indicated that it should not be permitted unless the impacts could be mitigated and would achieve a neutral or beneficial result for LSR management. Yet the Jordan Cove DEIS calls for amending forest protection LMP standards that conflict with the financial desires of the project applicant.

CO8-3

Here the pipeline project has not been planned so as "to have the least possible adverse impacts on LSRs." As will be discussed later in these comments, the Rogue River-Siskiyou National Forest proposed a "Roads Route" action alternative that would have significantly reduced impacts to LSR 227 (managed by the Forest Service) but it was not carried forward for analysis in the DEIS. Instead the proposed action in the DEIS calls for actions that will remove forests and increase habitat fragmentation in the LSR. Hence the project has not been designed to have the least possible adverse impacts to LSRs and the decision maker and the public cannot know the tradeoffs associated with implementing the project in the manner suggested by the Forest Service as having the least possible adverse impacts on LSRs.

CO8-4

CO8 Continued, page 3 of 9

CO8-3 The NWFP does not preclude the consideration of plan amendments. The underlying laws and regulations guiding plan amendments are discussed in section 1.4.2 of the DEIS. However, there is no proposal by the BLM or Forest Service to exempt the proposed PCGP project from direction in the NWFP at C-17 for new developments in LSR. The mitigation actions proposed by the BLM and Forest Service have been designed so that overall the impact would be neutral or beneficial to the creation and maintenance of LSOG habitat within LSRs (see DEIS section 2.1.4, 4.1.3.6, 4.1.3.7 and Appendices F and H).

CO8-4 The "Roads Route Alternative" proposed by the Forest Service is discussed in the EIS (see DEIS page 3-52 to 3-55). This route was not selected because it would have been 3 miles longer and have imposed a greater construction footprint in the LSR, and was not constructible in places due to terrain and tight radius turnpoints. It is important to note however that the original May 2006 route proposed by the applicant was modified to incorporate as much of the proposed Forest Service "roads route" as was feasible. As a result the proposed route in the 2014 DEIS incorporates recommendations of the "roads route," such as co-locating the pipeline within existing forest road corridors and within regeneration harvested areas, to minimize impacts to mature forests in LSR 227. After working with the applicant to create the modified route the Forest Service determined that neither the May 2006 route, nor the USFS "roads route" would be environmentally preferable to the modified proposed route. Additional discussion has been added in the FEIS to clarify this.

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

The habitat removal and modification associated with project implementation would retard the creation and maintenance of late-successional habitat in the LSRs. Mitigation would not result in the project having a neutral or beneficial outcome for LSRs.

CO8-5

Page 4-161 of the DEIS indicates that through forest clearing (clearcutting) and increased forest fragmentation (edge effects) the pipeline project will adversely affect 1,760 acres located on federal LSRs that are intended to be managed to retain and promote late-successional forest habitat. Please note that the DEIS acknowledges on page 3-64 that "unavoidable impacts on LSRs would require mitigation measures that in the long run would make the project neutral or beneficial" to LSR habitat. The proposed mitigation measures contained in the DEIS fail to result in a neutral or beneficial project to LSRs for the reasons delineated below. Please note that on page 4-164 the DEIS analysis of project mitigation illegally tiers to a "Compensatory Mitigation Plan (CMP)" that is allegedly contained in Appendix O of the project Biological Assessment (BA). The content of this CMP cannot inform the project as the BA is unavailable for public or agency review during the DEIS commenting period.

CO8-6

The LSR mitigation measures that are described in the DEIS (we cannot know if they track the content of the CMP) establish that the negative impacts of project activities on LSRs significantly outweigh the alleged benefits of the proposed mitigation as disclosed in the DEIS.

Page 4-188 of the DEIS indicates that the pipeline project will adversely impact 198 acres of LSR 223 managed by the Roseburg District BLM. Page 4-189 then concludes:

There are no proposed amendments to reallocate Matrix lands to LSR 223 in the BLM Roseburg District. This is due primarily to the lack of suitable LSOG forest habitat in the Matrix near the LSR and the pipeline. There is, however, a proposed amendment to reallocate Matrix lands to LSR 223 in the Umpqua National Forest, which borders the east side of the BLM Roseburg District.

In other words, the DEIS indicates that the pipeline project will directly harm LSR function on Roseburg BLM lands in a portion of the landscape that has been so heavily fragmented by past federal and private logging that no LSOG habitat of value exists near the planning area that can mitigate for the additional loss of LSR habitat. Converting unlogged LSOG habitat in the Umpqua National Forest to the LSR land use allocation will not mitigate or resolve the severe fragmentation and habitat loss problems associated with BLM management of the "checkerboard" land use pattern in LSR 223. Please also note that the DEIS fails to disclose whether or not the matrix land that will be converted to LSR on the Umpqua National Forest was scheduled for logging. Given survey and manage requirements and wildlife, recreation and ACS objectives, it is highly likely that the Umpqua National Forest would continue to manage the matrix LSOG as LSOG for the foreseeable future. As the DEIS repeatedly states, very little LSOG has been converted to fiber plantations since the inception of the Forest Plan. Are survey and manage species present in the matrix lands at issue? It may be that the pipeline proposal

CO8-7

CO8-8

4

CO8 Continued, page 4 of 9

CO8-5 A Compensatory Mitigation Plan has been developed by the BLM and Forest Service (see section 2.1.4 and Appendix F of the DEIS). The mitigation actions for LSR have been designed to be neutral or beneficial to the creation and maintenance of LSOG habitat by maintaining the overall acreage of LSOG within LSRs, and enhancing the function of the LSRs (e.g. through the addition of snags and large woody debris). Section 4.1.3.6 and Appendix H of the DEIS include discussions and analyses of the project and the proposed mitigation available to agency decision-makers.

CO8-6 In discussing the proposed mitigation actions of the BLM and Forest Service the DEIS on page 4-164 states, "The mitigation actions are described as part of FERC's proposed action in section 2.1.4 and appendix F of this DEIS." Appendix F is also referenced numerous times throughout the DEIS in relation to the proposed mitigation actions of the BLM and Forest Service (e.g. see Table 2.1.7-1 of the DEIS). Although these mitigation actions have been included in Appendix O of the BA, they are also included in Appendix F of the DEIS.

CO8-7 Mitigation would not change the checkerboard ownership of the BLM and private lands or the past timber harvest (private and federal) that has occurred in this area. The BLM lands in the area the proposed pipeline would impact LSR 223 are already all designated as LSR. Therefore any reallocation of BLM lands from Matrix to LSR would not occur in this area of the proposed pipeline. Mitigation actions that look at the site scale as well as the LSR scale are consistent with direction previously issued by the Regional Interagency Executive Committee of the NWFP when considering new developments in LSR. Additional discussion of this proposed reallocation has been included in the FEIS. The matrix lands proposed for reallocation are not currently planned for harvest, but the Umpqua NF is presently managing these acres as matrix. When and if these acres would be proposed for timber harvest or other management activities consistent with present LMP designations is speculative.

CO8-8 Surveys for survey and manage species are required prior to ground disturbing activities. The proposed reallocations of matrix land to LSR are not ground disturbing activities and therefore surveys for survey and manage species have not been conducted for the proposed reallocation amendments.

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

calls for logging BLM LSR habitat in a highly fragmented landscape (in which such habitat is disproportionately valuable to LSOG associated species) in return for reallocating matrix lands that would not have been logged anyway and which are located significantly away from the impacts associated with the pipeline clearcut logging on BLM lands.

Page 4-202 of the DEIS indicates that (in direct contradiction to the Forest Service proposal contained in the "Roads Route" alternative suggested in their scoping comments) the pipeline will bisect and fragment habitat across the entirety of LSR 227 managed by the Rogue River-Siskiyou National Forest while only adding an isolated stand of matrix forest to the LSR. It appears that interior forest habitat essential to the function of LSR 227 will be removed while an isolated parcel well to the north of the bulk of the LSR habitat will be reallocated from matrix to LSR. Page 4-206 of the DEIS acknowledges that logging associated with the pipeline:

would create edge impacts that may affect interior stand microclimates and cause habitat fragmentation within LSR 227 that cannot be avoided.

The DEIS fails to disclose the likelihood of the LSOG LSR 227 mitigation matrix lands reallocation stands being logged if the project does not occur. The Rogue River-Siskiyou National Forest simply does not log existing LSOG habitat. Are survey and manage species present on the matrix lands that would preclude there logging regardless of the project?

Page 2-206 of the DEIS indicates that a total of 822 acres in LSR 227 will be negatively impacted by the pipeline project. Yet only 512 acres of matrix is proposed for reallocation to the LSR land use allocation. Similarly, 435 acres of LSOG in the LSR will be negatively impacted but only 333 acres of LSOG located in the matrix (not all of which would be logged under the NW Forest Plan) is proposed for protection as mitigation. These figures make clear that the impacts of the project (including the proposed mitigation) are negative (and not neutral or beneficial) to the achievement of LSR goals and objectives and violate the NWFP.

Please further note that page 4-204 of the DEIS indicates that additional undisclosed LSR acres will be logged and additional forest fragmentation will occur in order to widen existing logging roads in the LSR to facilitate the use of oversized trucks and loads associated with the pipeline project. The impacts, location, and acreage of this proposed additional logging are not analyzed or disclosed in the DEIS.

The DEIS relies heavily on hypothetical road decommissioning to mitigate for significant new LSR forest fragmentation proposed in the Little Butte Creek Tier 1 Key Watershed. Please note that it has long been the policy of the Forest Service to reduce road density in LSRs and Key Watersheds and that a travel management planning effort is currently underway that will foreseeably further reduce the size of the Forest Service transportation system in Little Butte Creek. The DEIS fails to analyze or disclose how many of the roads proposed for decommissioning (as project mitigation) would have been

CO8-9

CO8-10

CO8-11

CO8-12

CO8-13

5

CO8 Continued, page 5 of 9

CO8-9

The proposed route does not contradict with the "roads route" proposed by the Forest Service. It is important to note that the original May 2006 route proposed by the applicant was modified to incorporate as much of the proposed Forest Service "roads route" as was feasible. As a result the proposed route in the 2014 DEIS incorporates segments of the "roads route" and utilizes existing forest roads and regeneration harvested areas to minimize impacts to mature forests. After working with the applicant to create the modified route the Forest Service determined that it was environmentally preferable over both the May 2006 route and the Forest Service "roads route." There are also numerous past timber harvest areas in this location and as such there is little existing interior forest habitat in this portion of the LSR (e.g. see page 7 of Appendix R2 of the DEIS). The proposed reallocation area adjoins LSR 227 and would add approximately six times as many acres of LSOG to the LSR than would be removed by the construction of the pipeline (see page 4-204 of the DEIS).

CO8-10

The matrix lands proposed for reallocation are not currently planned for harvest. The Rogue River NF is presently managing these acres as matrix. When and if these acres would be proposed for timber harvest or other management activities consistent with present LMP designations is speculative. Surveys for survey and manage species are required prior to ground disturbing activities. The proposed reallocations of matrix land to LSR are not ground disturbing activities and therefore surveys for survey and manage species have not been conducted for the proposed reallocation amendments.

CO8-11

A large percentage of the impacts discussed on page 4-204 of the DEIS (page 2-206 does not exist in the DEIS) are "indirect impacts" where LSOG habitat would not be removed by the project. Also only a small portion of the forest habitat that would be removed in LSR meets the criteria for LSOG habitat. The DEIS discloses that for every acre of LSOG habitat within LSRs that would be removed by the project, approximately 10 acres of LSOG habitat would be added to the LSR system (see Table 4.1.3.7-12 of the DEIS). Also in addition to the reallocation of matrix to LSR 227 there is also a compensatory mitigation plan developed by the Forest Service that has been designed with the goal that overall the project would be neutral or beneficial to the creation and maintenance of LSOG habitat within LSR 227 (see pages 4-202 to 4-211 and Appendix F of the DEIS).

CO8-12

The DEIS discloses on page 4-204 that the additional clearing for road reconstruction within LSR 227 would be approximately 4 acres and occur within the existing road clearing limits to the extent possible. The discussion of impacts on LSOG habitat in the DEIS includes impacts from road construction/reconstruction (see sections 4.6 and 4.7 of the DEIS).

CO8-13

Road decommissioning work is planned by the agencies in advance, in conjunction with transportation management planning and Watershed analysis. Roads are identified as candidates for decommissioning whether or not funding would ever be available. Road decommissioning is implemented by the agencies as funding is available. The CMP would make possible road decommissioning identified in watershed analyses and in LSR assessments at a level above our existing program capacity. If the PCGP project is approved and constructed, funding would be provided by the applicant for the proposed mitigations.

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

decommissioned anyway. The DEIS ignores that over time the Forest Service would have conducted road decommissioning in the LSR/Key Watershed as recommended by the NW Forest Plan, the Watershed Analysis and the Travel Rule.

CO6-13
Cont'd

Please note that page 4-229 of the DEIS indicates that:

Adverse impacts [from pipeline clearcutting] would occur at the time of construction whereas the beneficial effects of edge reduction would occur over several decades.

In other words the project would result in immediate, significant, additional fragmentation and harm to LSR habitat objectives in return for speculative, future road decommissioning activities that likely would have occurred anyway. Similarly, the project will result in immediate, significant and additional loss of forest habitat located in LSRs in return for the "protection" of some matrix forest stands in which logging might never have occurred anyway due to wildlife, social and watershed objectives.

Figure 4.1-40 indicates that the pipeline will result in 1,152 acres of immediate additional edge effects in LSR 223 and 227, yet only 1,041 acres of long-term (speculative) edge reduction (which may have occurred anyway) is proposed. This does not constitute a positive or neutral impact on LSR function.

CO8-14

Figure 4.1-43 directly acknowledges that the project will have negative (rather than neutral or beneficial) impacts to LSOG located in LSRs in both the Oregon Coast and Oregon Western Cascades provinces in violation of the NW Forest Plan.

CO8-15

Page 2-53 of the DEIS indicates that project planners intend to mitigate the impacts of pipeline associated logging through LSRs by conducting up to 6,000 acres of additional logging. The DEIS fails to disclose any of the impacts of logging, yarding or log hauling associated with the proposed additional logging activities. Page 2-53 claims that "mostly smaller trees would be removed" but "smaller trees" are not defined, the term "mostly" is ambiguous, and the number of large trees to be removed to accomplish stand objectives or to facilitate yarding or landing activities is not analyzed or disclosed. Page 2-54 of the DEIS indicates that subsequent site-specific planning and analysis would demonstrate compliance of this logging with the respective LMPs despite the fact that proposed pipeline action attempts to establish precedent that the proposals of pipeline proponents can and will violate the LMPs for Federal land management.

CO8-16

The Project May Increase Fire Hazard in LSRs

Page 2-59 of the DEIS acknowledges that:

The pipeline would create fire suppression complexity by creation of a continuous corridor of early seral plant communities.

Page 4-220 of the DEIS states:

6

CO8 Continued, page 6 of 9

CO8-14 Figure 4.1-40 discloses that there would be approximately 783 acres of edge effect impacts and approximately 894 acres of edge reduction mitigation in LSR 223 and 227. This however is not the only mitigation actions proposed for LSRs. Table 4.1.3.7-16 of the DEIS summarizes the offsite mitigation actions in LSRs and Table 4.1.3.7-15 summarizes the amount of LSOG habitat impacted in LSR with the amount of LSOG habitat reallocated to LSR. All of these actions combined have been designed to be neutral or beneficial to the creation and maintenance of LSOG habitat in LSR.

CO8-15 A large percentage of the impacts displayed in Figure 4.1-43 are "indirect effects" where LSOG habitat would not be removed by the project. Figure 4.1-43 displays that for every acre of LSOG habitat within LSRs in the Oregon Coast and Oregon Western Cascade Provinces that would be removed by the project, approximately 6 acres of LSOG habitat would be added to the LSR system (see Table 4.1.3.7-15 of the DEIS). Also in addition to the reallocation of matrix to LSR, there is a compensatory mitigation plan developed by the BLM and Forest Service that has been designed with the goal that overall the project would be neutral or beneficial to the creation and maintenance of LSOG habitat within LSRs in the Oregon Coast and Western Oregon Cascades provinces (see section 2.1.4, 4.1.3.7, and Appendix F of the DEIS).

CO8-16 Page 2-53 of the DEIS discloses that approximately 6,600 acres of integrated fuels reduction in overstocked stands is being proposed by the BLM/Forest Service. This action is being proposed to reduce the risk of stand-replacement fire and possible losses of LSOG forest/ NSO habitat in an area that has a history of lightning fires. This activity is further discussed in Table 2.1.4-1 including the expected environmental consequences. The purpose of the proposed fuel reduction activities is discussed on pages 2-51 through 2-54 and in Table 2.1.4-1 of the DEIS. Subsequent site-specific environmental analysis would further define the details of the proposals. Amendments to the LMPs have not been proposed for the mitigation actions outlined in section 2.1.4 of the DEIS. The mitigation actions are being designed to be consistent with the LMPs as well as the recommendations in watershed assessments and the LSR assessments. With the proposed amendments the PCGP project would not violate the LMPs.

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

CO8 Continued, page 7 of 9

Construction of the pipeline and associated activities would remove both mature and developing stands and increase fire suppression complexity.

By converting mature forest stands to into a continuous corridor of early seral plant communities the project increases fire hazard and decreases options for fire management in the LSRs. This is a direct and significant negative (as opposed to neutral or beneficial) impact on the ability of the LSR land use allocation to achieve its management objectives.

CO8-17

Rather than avoid or address the impacts of increasing fire hazard in the LSRs, the DEIS proposes "mitigation" measures that attempt to facilitate fire suppression and fire exclusion. As described on pages 4-220 and 4-221 of the DEIS these mitigation measures in Middle Fork Coquille Watershed include establishment of a fuel break, construction of heli-ponds and installation of dry hydrants all of which will be used to continue to attempt to exclude fire from BLM LSRs.

CO8-16

It is widely recognized that fire exclusion and fire suppression in fire dependent forests (such as those in southwest Oregon) increases fire hazard and fire severity over time due to changes in forest species and seral composition. Attached to these comments is an article entitled Ecology and Management of Fire-prone Forests of the Western United States that we hereby submit to the record for this project.

CO8-19

By creating a continuous corridor of early seral vegetation and by facilitating additional fire exclusion and fire suppression through LSRs the pipeline project will increase fire hazard and may contribute to high severity wildfire effects that inhibit the retention of late-successional habitat characteristics.

CO8-20

A Reasonable Action Alternative For LSR Management Should Have Been Developed

Project proponents and project planners have refused to develop and consider action alternatives that would be consistent with the respective LMPs in the project area. Please note that page 3-52 of the DEIS indicates that representatives of the Rogue River-Siskiyou National Forest proposed a "Roads Route Alternative" to project planners in which pipeline construction would have paralleled existing roads and would have avoiding logging, clearing and construction activities within the Late Successional Reserve 227. FERC and the public cannot contrast this reasonable action alternative with the proposed action because project proponents and project planners refused to develop the alternative for consideration in the DEIS. Hence the tradeoffs, benefits and challenges of implementing the Forest Service proposed alternative on Forest Service managed lands cannot be known. Please further note that the Forest Service is entitled to substantial legal deference in questions of professional judgment concerning management of Forest Service lands and resources. The preferences of project proponents to construct the pipeline directly through Federal LSRs do not relieve FERC of its duty to develop,

CO8-21

7

- CO8-17 The impacts the project would have on LSRs including fire risk is discussed in the DEIS and additional discussion has been added in the FEIS. A compensatory mitigation plan has been developed so that overall the project (with the mitigations implemented) would be either neutral or beneficial to the creation and maintenance of late successional habitat within the LSRs.
- CO8-18 The proposed mitigation actions have been designed to reduce the potential for late successional habitat loss due to high intensity wildfires within the LSRs. The actions have not been designed to exclude fire from LSRs. Additional discussion has been added in the FEIS.
- CO8-19 This comment letter contained an attachment that did not directly comment on the DEIS. This attachment has been reviewed and any relevant information found was incorporated into the analysis as applicable; however, the attachment is not included in this Appendix to the FEIS. The entire comment letter, including this attachments, is available on the eLibrary filed under accession number 20150203-5164.
- CO8-20 The proposed mitigation actions have been designed to reduce the potential for late successional habitat loss due to stand replacement wildfires within the LSRs. The actions have not been designed to exclude fire from LSRs. Attached to the comments was a paper authored by Jerry Franklin et al. that was presented at the Society for Conservation Biology Scientific Panel on Fire in Western U.S. Forests in August of 2006. This paper did not address the PCGP project but the Federal agencies will consider the science presented in the paper to the extent that is relevant to the analysis in the FEIS. The original comment in its entirety, which contained the Franklin et al. paper, can be accessed on the eLibrary under accession number 20150203-5164(30124572). Additional discussion on fire risk has been added in the FEIS.
- CO8-21 The "Roads Route Alternative" proposed by the Forest Service is discussed in the EIS (see DEIS page 3-52 to 3-55). This route was not selected because it would have been 3 miles longer and have imposed a greater construction footprint in the LSR, and was not constructible in places due to terrain and tight radius turnpoints. It is important to note however that the original May 2006 route proposed by the applicant was modified to incorporate as much of the proposed Forest Service "roads route" as was feasible. As a result the proposed route in the 2014 DEIS incorporates recommendations of the "roads route," such as co-locating the pipeline within existing forest road corridors and within regeneration harvested areas, to minimize impacts to mature forests in LSR 227. After working with the applicant to create the modified route the Forest Service determined that neither the May 2006 route, nor the USFS "roads route" would be environmentally preferable to the modified proposed route. Additional discussion has been added in the FEIS to clarify this.

20150203-5164 FERC PDF (Unofficial) 2/3/2015 4:37:00 PM

consider and contrast reasonable alternatives to the proposed action as suggested by the Forest Service during project scoping.

CO8-21
Cont'd

Survey and Manage Forest Plan Amendments Are Significant

The contention on page 4-40 of the DEIS that proposed survey and manage plan amendments are not significant is in error. The proposal to directly impact habitat at 386 known survey and manage sites involving 62 rare species is a major change in management direction and will directly impact a significant number of high value species.

CO8-22

Soil Forest Plan Amendments Are Significant

The DEIS proposes to violate/amend soil standards to facilitate pipeline construction. As acknowledged on page 4-49 the negative effects to soils from project activities that violate the existing forest plans are both significant and "long term." Many of these negative impacts to soils will occur in previously protected land use allocations such as LSRs, riparian reserves and Key Watersheds. Additional (but unanalyzed and undisclosed) soil compaction will be associated with road widening throughout the project area and yarding activities to facilitate forest clearing. The cumulative impacts of violating existing soil protection standards through clearcutting, pipeline construction, road widening and yarding activities are significant, irreversible and long term. Please note that page 4-66 of the DEIS indicates that no road decommissioning mitigation measures are proposed on the Winema National Forest to compensate for the proposed plan amendments to allow for additional significant long-term soil damage associated with the project.

CO8-23

The Project Will Violate the Aquatic Conservation Strategy

The Pacific Connector proposal would not be compliant with underlying and more restrictive standards and guidelines in the Umpqua, Rogue River and Winema National Forests' LRMPs that apply to riparian areas.
-Jordan Cove DEIS page 4-79

Page 4-77 of the DEIS indicates that the project will remove (clearcut) 91 acres of vegetation located in riparian reserves including 32 acres of mid-seral forest and 32 acres of LSOG forest stands. The impacts of associated edge effects and yarding activities on riparian reserve management objectives is not disclosed or analyzed.

CO8-24

At 4-238 and 4-239 the DEIS indicates that the project will mitigate harm to ACS and riparian forest resources through road decommissioning, road resurfacing, instream LWD placement and culvert replacement. All of these activities are already occurring on Federal lands within the project area, especially in Key Watersheds and LSRs. The

CO8-25

8

CO8 Continued, page 8 of 9

CO8-22 An analysis of the proposed survey and manage plan amendments is included in the DEIS (see section 4.7.4, and Appendix K). Also an analysis of the relationship to LMP Objectives and Significance Assessment for Forest Service Plans is addressed in section 4.1.3.4. The analysis determined that the management objectives of the survey and manage mitigation measure would continue to be met with the proposed amendment.

CO8-23 The impacts to soils are addressed in the DEIS (see sections 4.1.3.4, 4.3, and 4.14). Discussion on page 4-66 of the DEIS was not found that would indicate there is no proposed road decommissioning mitigation on the Winema NF. There are over 21 miles of road decommissioning proposed for the Winema NF (see Table 2.1.4-2 and Appendix F of the DEIS).

CO8-24 The impacts the proposed project would have on riparian areas and riparian reserve management objectives is disclosed in the DEIS (see sections, 4.1.3.5, 4.4.4, and Appendix J).

CO8-25 Watershed restoration work is planned by the agencies in advance, in conjunction with transportation management planning and Watershed analysis. Projects are identified as candidates for restoration whether or not funding would ever be available. Restoration work is implemented by the agencies as funding is available. The CMP would make possible mitigation actions identified in watershed analyses and in LSR assessments at a level above the agencies existing program capacity. If the PCGP project is approved and constructed, funding would be provided by the applicant for the proposed mitigations.

20150203-5164 PERC PDF {Unofficial} 2/3/2015 4:37:00 PM

Rogue River-Siskiyou, Umpqua and Winema National Forests have robust track records and foreseeable proposals for all four of these restoration/mitigation strategies. The Medford, Roseburg and Coos Bay BLM Districts also regularly propose and implement these activities. Road decommissioning, road resurfacing, instream LWD placement and culvert replacement would all occur regardless of the Pacific Connector project.

CO8-25
Cont'd

Implementation of the action proposed in the DEIS will violate the LRMPs regarding riparian management and directly harm ACS management objectives while relying on mitigation measures that are common and ongoing regardless of whether the pipeline is constructed or not.

CO8-26

Forthcoming BLM Record of Decision (RODs)

Given the proposed impacts to LSRs, riparian reserves and ACS objectives, the BLM must conclude that the proposed project does not conform with existing land use plans and will result in significant, irreversible and irretrievable impacts to its resources and programs.

Please ensure that we are provided a timely hard copy of the forthcoming BLM RODs.

Thank you for considering these comments and concerns.



George Sexton
Conservation Director
Klamath Siskiyou Wildlands Center
PO Box 102
Ashland, OR 97520

CO8-27

CO8 Continued, page 9 of 9

CO8-26 The BLM and FS are not relying on ongoing watershed restoration activities as mitigation for the effects of the PCGP project. Rather, the BLM and Forest Service are proposing mitigation actions to compensate for the unavoidable adverse effects of the PCGP project to ensure the objectives in the LMPs would continue to be met. Consistency with the management objectives for BLM and Forest Service LMPs, including the ACS are addressed in the DEIS (see sections 4.1.3.5, 4.4.4 and Appendix J). The mitigation actions proposed by the BLM and Forest Service would be funded by the applicant.

CO8-27 This comment letter contained attachments that did not directly comment on the DEIS. These attachments have been reviewed and any relevant information found was incorporated into the analysis as applicable; however, the attachments are not included in this Appendix to the FEIS. The entire comment letter, including these attachments, is available on the eLibrary filed under accession number 20150213-5299.

20150123-0007 FERC PDF (Unofficial) 01/16/2015

CO9

CO9 Save Our Rural Oregon, Paul Fouch, PE, President

BEFORE THE
FERC

ORIGINAL

CP13-483-000

IN THE MATTER OF THE APPLICATION FOR
APPROVAL OF THE EIS FOR THE Jordan Cove
Liquefaction and Pacific Connector Pipeline project) SAVE OUR RURAL OREGON
PUBLIC COMMENT ON DEIS

ISSUE: Public comments on the negative environmental impacts caused by location and design of the pipeline along the environmentally sensitive 7 miles stretch of the pipeline along the Klamath River from Collins Products to Keno Oregon

REVIEW STANDARD: FERC DEIS review regulations

HEARING OFFICER: Ms. Kimberly D. Bose
Secretary, Federal Energy Regulatory Commission
888 First St. N Room 1A
Washington, D.C., 20426

FILED
SECRETARY OF THE
FEDERAL ENERGY
REGULATORY COMMISSION
2015 JAN 16 P 2:40
TOLSON

PRESENTER: Paul Fouch, PE President of Save Our Rural Oregon
8017 Hwy 66
Klamath Falls, Or 97601
pmfouch@gmail.com 541-884-4324

AUTHORITY:

FERC call for public comment on Docket No. CP13-483-000 DEIS Jordan Cove Liquefaction and Pacific Connector Pipeline project due on or before Feb. 13

REVISION NUMBER AND DATE:

Revision number: 0
Date: 1-13-2015

PURPOSE/JUSTIFICATION

Provide substantive evidence to justify a moratorium on the DEIS Jordan Cove Liquefaction and Pacific Connector Pipeline project until a more complete EIS is completed for all environmentally sensitive areas through which the line travels or until the line is designed to minimize impacts in these areas.

20150120-0007 FERC PDF (Unofficial) 01/16/2015

Required action prior to approval of DEIS

SORO asks the FERC to impose a moratorium on the DEIS Jordan Cove Liquefaction and Pacific Connector Pipeline project until a more complete EIS is completed for all environmentally sensitive areas through which the line travels or until the line is designed to minimize impacts in these areas. My request is made following a cursory evaluation of the DEIS in Docket No. CP13-483-000. In the DEIS it appears that only general statements are made about impact risks to the environmental integrity of the land over which it travels except for a few areas such as the Port of Coos Bay and the Oregon Dunes. The critical evaluation and required EIS analyses that I make in this document are based on 3 years of research by SORO in its fight to stop the industrial biomass use of a 7 mile stretch of environmentally sensitive land located along the Klamath River between Collins Products and Keno. Furthermore, I feel that my request should set a legal precedent to have more complete EIS evaluations in other environmentally sensitive area through which the pipeline will be built.

Required conditions for project approval along Klamath River

SORO contends that key critical design criteria must be implemented pipeline location and design along the environmentally sensitive 7 miles stretch of the pipeline along the Klamath River from Collins Products to Keno to adequately protect human life and the Klamath River and fish and wildlife in this area. (see map in Att 1.0) Most import, unless builders of the pipeline incorporate SORO's proposed conditions in the design and location of the line, the pipeline should not be routed through the sensitive area 7 miles long between Collins Products and Keno but the line should be rerouted through a less environmentally sensitive area. Of primary concern is the location of the line in this area which should have its trajectory be straight line flow or smooth curves to avoid stress in materials and flow turbulents which build up high-fluctuating pressures in the line and should be one half way between the river and Hwy 66 (This would minimize impacts on both humans and the ECO system—see Att 1.0 map) It is of utmost importance that the line built above ground for ease of maintenance and to have less impact on the hydrology of the wetlands, streams flowing into the river, to avoid being flooded and for proper maintenance to prevent leakage. This design is required to properly protect threatened and endangered species in the area and to protect fish and wildlife habitats (especially migratory birds). And the design should be shock isolated to minimize catastrophic from earthquakes in this area which is in an extremely high earthquake hazard area. In addition there should be a area fenced area around the line of at least 100 feet wide to prevent wildlife and endangered species from breathing fumes from the line and minimize drinking contaminated water around the line and prevent farm implements and equipment from puncturing the line. Finally, the design should have a fail safe warning systems to protect nearby residents from line breakages and explosions, etc. In conclusion the most important requirement is to locate the line one half way between the river and Hwy 66 with a trajectory that has a straight line flow (see Att 1.0).

Specific areas where further EIS evaluation is needed

This section points out what specific analyses are need to properly protect humans and fish and wildlife adjacent to the pipeline from catastrophic failures of the line on along the Klamath River. It is concluded that the project must not only meet FERC laws, but should meet appropriate other appropriate federal laws, state and county laws as are pointed out in the following analyses. Of primary importance are federal laws for protection of wildlife in this area—MTBA and ESA. State law ORS469.310 which requires protection against environmental impacts and protection of public health and safety as threshold issues is key. State laws to protect fish and wildlife must be adhered to by the project. In addition county ordinances such as the KCCP and KCDC and KCLDC must be followed by the project. KCLDC-44.030 C which governs conditional land use permits requires that industrial projects adjacent to residential areas not have significant adverse impacts on their health and livability. (see Att 2.0—SORO lawyer's report.) The Sierra Club report in (Att 3.0) states that there will be weld joints at 20 feet increments along the which will be susceptible to fracture and leakage especially during earthquake, flooding etc. This requires that the line be built above ground and have frequently 100% inspections of weld joints.

CO9 Continued, page 2 of 6

- CO9-1 The DEIS was complete. The document meets the requirements of the CEQ regulations for implementing the NEPA. The Project has nothing to do with “industrial biomass.” The Pacific Connector pipeline would transport natural gas.
- CO9-2 Safety and pipeline design were discussed in section 4.13 of the DEIS. DOT standards require the burial of a pipeline below ground. Underground pipelines are maintained using a pig; or internal inspection tool. A natural gas pipeline on top of the ground would be unsafe, and would have more impacts on wetlands and waterbodies, and would be more subject to flooding. Having curves in a pipeline does not create stress in the materials, and does not build up pressure. In fact, some of the curves are so the pipeline route can avoid or reduce impacts on federally-listed species. There was a route realignment between MPs 195.3 and 195.3 on the Collins tract to avoid a population of Applegate’s milk-vetch. Otherwise, the Pacific Connector pipeline route between the Collins tract and Keno would follow the existing Weyerhaeuser Timber Company Road and the GTN Medford lateral pipeline. Following an existing right-of-way typically has less environmental impacts.
- CO9-3 As discussed above, in our response to CO9-2, the proposed route of the Pacific Connector pipeline in this area would avoid or reduce impacts on federally-listed species. Buried pipelines are able to withstand stress from seismic events. Project-related responses to earthquakes were discussed in section 4.2.2 of the DEIS. Underground FERC-regulated natural gas transmission pipelines generally do not leak. Safety is addressed in section 4.13. There is no requirement for pipeline rights-of-way to be fenced.
- CO9-4 The DEIS indicated that the Project would comply with all federal, and applicable state laws and regulations. All pipeline welds would be inspected (see section 4.13 of the DEIS). FERC-jurisdictional natural gas transportation pipelines rarely leak. See response to IND1-2. The DEIS discusses potential impacts on wildlife in section 4.6, including compliance with the MBTA. Section 4.7 addresses impacts on federally-listed and state sensitive species. Note that the assessment required by the ESA is found in the Biological Assessment (BA).

20150120-0007 FERC PDF (Unofficial) 01/16/2015

Geological and Seismic risk evaluation (OAR 345-022-0020)

The only seismic risk evaluation I see in the document are on page 278 of Doc. 447 where a vague statement is made that only a .01 probability of volcanic eruptions existed at any point along the line. Specifically there is no evaluation of the geology and seismic risks of areas upstream from this 7 mile stretch of the line which could impact the area along the Klamath River downstream where the pipeline is located. Specifically the EIS failed to evaluate dam and levee designs upstream from the site which could cause flooding of the line along this stretch -- failed to assess the ability of the dam and dikes to withstand seismic events which should include evaluation of earthquake hazard maps where the dam is located. Also dam and levee design should be analyzed to determine its ability to stand extreme weather events--especially high water and debris impacting the dam.

Failed to use seismic hazard maps evaluate the risk of the proposed line along this 7 mile stretch along the Klamath River being a intermediate to high hazard earthquake zone. These events could cause catastrophic failure of the line and explosions and fires. Also, failed to evaluate the possibility active faults being in the proposed line area. In addition failed to conduct borehole surveys at the proposed line location to map the buried fault pattern. And did not consider liquefaction which could be caused by large faults in the area.

Failed to identify to seismic zone and expected ground motion and ground failure, taking into account amplification, during the maximum credible and maximum probable seismic events This would include a 9.0 scale quake. Failed to prove that there is no interpolate interaction near the area to produce massive quakes. Also, they failed to do adequately conduct on area testing and studies such as test hole drilling and soil analysis and calculations to determine maximum motion. The attached Yonna formation data (see Att 4.0) could be used to show how unstable the area and the dikes are--how most of the Yonna formation soil structure was washed away and is now covered with volcanic sedimentary rock--so now there are 2 main structural strata's--and the surface rock is now collapsing on the old Yonna formation--this creates and unstable substructure in this area.

Failed to evaluate the possibility of catastrophic (mega thrust earthquakes) seismic events in this area. Failed to provide data on the multidimensional characteristics of typical earthquake events in the area--wave and echo wave type motion.

Quote from SORO Expert Geologist Witness who evaluated this area for the location of a heavy industrial plant (I feel that this conclusion is also appropriate for the pipeline project in this area.):

"Failed to adequately assess the probability of future seismic risks properly."

Failed to use seismic hazard maps published by DOGMI, IMS-19, Interpretive Map Series, 2000. (See Att 5.0) The "Relative Earthquake Hazard Map" shows that Zone B (Intermediate to high hazard zone) can be extrapolated into the proposed site area. The applicant also failed to show a detailed geologic map that shows faults and known active faults that are present near the site. Faults no doubt exist on the proposed facility site but have been difficult to map because they are masked by several feet of valley fill consisting of sand and silty gravel. Many of the active faults have lateral as well as dip movement. Very recent fault movements of the same fault system are dramatically displayed around the school building and area of Ponderosa J.H.S. A shallow borehole survey could be conducted at the proposed facility site to map the buried fault pattern. Liquefaction of the subsurface soils caused by the vibration of a large fault is a possibility. A megathrust earthquake located off the NW coast is expected in the near future. The cycle for such an event is 300 to 350 years. The last one occurred in the year 1700. On Good Friday, 1964, Alaska had a megathrust quake that shook Anchorage for 4 minutes causing liquefaction of the Bootlegger Cove clay and resulted in severe damage to the city of Anchorage and nearby housing areas. Anchorage was located 200 miles from the epicenter. This is approximately the same distance that Klamath Falls would be located from the next NW megathrust earthquake.

CO9 Continued, page 3 of 6

CO9-5 Seismic hazards are discussed in section 4.2.2. This project does not include building dams or levies, therefore they are not included in this NEPA analysis.

CO9-6 Seismic hazards are discussed in section 4.2.2.2. The risks of earthquakes and the effects on welded pipelines are disclosed.

CO9-5

CO9-6

20150120-0007 FERC PDF (Unofficial) 01/16/2015

Below are some specific points the expert witness made based on his geological evaluation of the area which can be furnished upon request (see Att 5.0)) :

- Map on page 3 reveals that ½ of the facility high hazard zone with a QTS rating and active faults can be extrapolated through the site.
- Maps on page 4 reveals that fault lines are all around the site —the South Klamath and Sky Lakes faults
- Page 5 discusses the seismic history of the site and the dam areas
 - reveals that 3 mega quakes have happened in the past 15,000 years and currently a fault is causing the foundation at the Ponderosa school to slide apart.
 - Seismic evaluation reveals that a 9.0 mega quake is a possibility in a few years
 - Because of the 300 year cycles in our area (we are at year 312 in the cycle)
 - There two large active volcanoes in the area one is only 25 miles from the site. And a small one is at the entrance to the Round Lake valley only 1.0 miles away.
- Page 6 discusses that liquefaction is possible at the site with shaking and slope instabilities because of the soil structure—The sliding of liquefied material and lateral spreads can tear buildings, roads and bridges apart. It also discusses how instability occurs when the soft top soil on top of hard road turns almost into quicksand—building sink and tanks rise. The is particular problem at river banks at the end of a fault.

Note: Failed to evaluate the current clogged condition of the river channel along this 7 mile stretch of the Klamath River. The channel was dredged after the 1964 flood but not since and sinker logs and debris often clog the channel. They used to salvage debris every year with a raft with a boom but haven't done this since 2003. Therefore, high water from extreme weather and earthquakes could risk the breakage of the dikes and cause the site to flood.

CO9-7

Also refer to (Att 6.0) Klamath 1993 Earthquake Report and (Att 7.0) site Civil Engineer's report and (Att 8.0) SORO evaluation of Civil Engineer's report) Refer to (Att 9.0 for evaluation of Link River Dam structure)

Soil evaluation (OAR 345-022-0022)

The EIS failed evaluate the soil type for in this 7 mile stretch along the Klamath River to prove that it is not hydric and whether or not it will absorb moisture but leave it lay on top of the soil and let it run off to the river. They have not evaluated that toxic flooding potential if the pipeline breaks during a catastrophic event such as an earthquake will risk the contamination of surrounding farmland and the river and will risk severe damage to wildlife and bird habitats and endanger the fish in the adjacent Klamath River

CO9-8

Most important soil factor that demonstrates this area will risk pollution to the river is that these types of soils have a propensity not to absorb water and moisture but to leave it lay on the surface of the land. This is evidenced by the many wetlands in this area and wetlands in surrounding areas and photos shown during spring runoffs and storms (see Att 10.0)

The low elevation of the area coupled with the inability of the soils to absorb water but let it lay stagnant or allow it to drain rapidly into surrounding lands and the river will risk contamination of the surrounding soils and the river. Events such as earthquakes will risk the breakage of the Klamath Lake Dam. Also, extreme weather events could cause levee failures and toxic drainage from the line onto the surrounding lands. This will risk the river's health and the sucker fish, deteriorate wildlife habitats and result in poisoning of wildlife and birds and endangered species due to the contamination of soils

Noise Control (OAR 340-035-0035)

The pumping station near the Jake Road residential area and hydrostatic discharge station near Lawanda Hills residential area will need noise damping measures in its design to reduce noise levels which will impact the

CO9-9

CO9 Continued, page 4 of 6

CO9-7 Waterbodies and floodplains are discussed in section 4.4 of the DEIS, including susceptibility to scour. An underground pipeline is not likely to be adversely impacted by a flood. Pacific Connector would cross under the Klamath River using an HDD. The pipe would be well below the river bottom and would not be impacted by logs washing downstream. Dredging the Klamath River is not part of the proposed Project, therefore this topic is not included in this EIS.

CO9-8 Soil resources are discussed in section 4.3 of the DEIS. The pipeline is not likely to break during an earthquake, as discussed in section 4.2.1.3. Natural gas is lighter than air. In the unlikely event of a leak, natural gas would not contaminate farmland or rivers, because it would escape upwards and be disbursed in the wind.

CO9-9 We are not familiar with a project-related “pumping station” near Jack Road. Hydrostatic discharges are not likely to create much noise. Project-related noise impacts are discussed in section 4.12 of the DEIS, including impacts on wildlife.

20150120-0007 FERC PDF (Unofficial) 01/16/2015

livability for nearby residents and wildlife. (doc 448 page 5-37) The EIS must evaluate the noise as a threshold consideration (evaluate noise impacts on public health). It is the duty of the EIS to evaluate the adverse impacts of the site location to the nearby residents and the environment which requires an evaluation of adverse impacts to public health and safety as a threshold issues per ORS469.310. The impacts on wildlife should also be evaluated!!
EPA reports says that severe health impacts would result. Severe health impacts will be forthcoming.

CO9-9
cont.

Threatened and Endangered Species

There are at least five threatened or endangered species that may be affected by the proposed pipeline in this area for which impacts should be evaluated: Applegate's milk-vetch (a plant), Shortnose sucker and Lost River sucker (fish), Bald eagle and Kit fox. (see Att 2.0) There are many places in this stretch where the Applegate's milk-vetch exists and cannot be disturbed—it cannot be moved and transplanted or it will die. Endangered animals feed in this area and will be poisoned if the line leaks into the ground during flooding or from excessive runoff from streams occurs which contaminates this non porous soil which is not hydric. Also toxic fumes will be emitted from the line. The Klamath River with its sucker fish cannot tolerate contaminated runoff from the above sources. The worst contamination scenario would be if an earthquake were to occur and the line broke. This project must adhere to the ESA laws to protect Threatened and Endangered Species in this sensitive area. The project must also adhere to state law OAR 345-022-0070 to properly protect wildlife. The best design to protect these species is to have the line built above ground for ease of maintenance and to have less impact on the hydrology of the wetlands, streams flowing into the river, to avoid being flooded and for maintenance. And the design be shock isolated to minimize catastrophes from earthquakes in this area which is in an extremely earthquake hazard area. In addition there should be a area fenced area around the line of at least 100 feet wide to prevent these species from breathing fumes from the line and minimize drinking contaminated water around the line. (See Att 3.0 Sierra Club report on potential PM10 emissions from the line)

CO9-10

Fish and Wildlife Habitats

This area teems with avian wild life and fish in ditches and tributary streams and in the river. The area is a foraging area for up to 40,000 migratory snow geese per day during the spring migration and the nesting area for sand hill cranes and other wildlife. It is home to categories 1-5 wildlife habitats. (see Att 2.0) As with Threatened and Endangered Species these categories of wild life will be poisoned if the line leaks into the ground during flooding or from excessive runoff from streams occurs which contaminates this non porous soil which is not hydric or toxic fumes are emitted from the line. Fish other than sucker fish in the Klamath River cannot tolerate contaminated runoff from the above sources. The worst contamination scenario would be if an earthquake were to occur and the line broke. In addition if the line goes through this area many thousands of acres of wildlife habitat will be lost. This project must adhere to the MTBA laws to properly protect wildlife in this sensitive area. The project must also adhere to state law OAR 345-022-0060 to properly protect wildlife. Also see OAR 635-415-0025. Note: The same pipeline design requirements as that are recommended to protect Threatened and Endangered Species should be used to properly protect fish and wildlife habitats.

CO9-11

Wetlands

Wetlands which comprise 20-30% of this area must be properly protected under OAR141-085-0565 and KLDC 62.050. (see Att 2.0) There is lack of public need to damage these wetlands under OAR141-085-0565. Altering the hydrology by routing the line through tributary streams and risking line leakage cannot be tolerated. KLDC62.50 prohibits structures within 100 feet of streams. Therefore, the line must be routed above the ground in this area.

CO9-12

CO9-13

Historic, Cultural and Archaeological Resources

CO9 Continued, page 5 of 6

- CO9-10 Impacts on federal and state-listed species are addressed in Section 4.7 of the DEIS.
- CO9-11 See response to CO9-4.
- CO9-12 The DEIS addressed impacts on wetlands and waterbodies in section 4.4. The DEIS discusses the need for the project to comply with all federal, state, and local laws and ordinances. This includes the Oregon Administrative Rules.
- CO9-13 The pipeline would be buried underground in accordance with DOT standards and requirements.

20150120-0007 FERC PDF (Unofficial) 01/16/2015

About 50% of this area has never been touched by humans while the rest is in pasture or used for hay farming. According to the tribes an abundance of archaeological materials exist in this area and should not be touched

The project must adhere to the requirements of OAR345-022-0090 to protect archaeological materials that exist in this area:

--Require the project to conduct subsurface archaeological studies in the vicinity of the southern branch of the 30 utility line, to determine if there are archaeological materials in this area

--Require the project to conduct a random sampling of shovel tests thorough out the area.

CO9-14

Attachments

Att 1.0 SORO's map of proposed location revision of line location along 7 mile stretch Klamath River.

Att 2.0 SORO lawyer's report for 7 mile stretch along Klamath River

Att 3.0 Sierra Club report on Pacific Connector Pipe Line

Att 4.0 Yonna formation data for 7 mile stretch along Klamath River

Att 5.0 Expert witness notes based on his geological evaluation of the area

Att 6.0 Klamath Falls 1993 earthquake report

Att 7.0 Civil Engineer's report mile stretch along Klamath River

Att 8.0 SORO evaluation of Civil Engineer Report

Att 9.0 SORO evaluation of Link River Dam structure

Att 10.0 Photos of wetland in area

CO9-15

CO9 Continued, page 6 of 6

CO9-14

The DEIS discusses the need for the project to comply with all federal, state, and local laws and ordinances. This includes laws to protect archeological materials. Section 4.11 of the DEIS addressed the identification and protection of important archaeological sites. Between MP 187 (near Keno) and MP 199 (Klamath River) most of the pipeline corridor was surveyed for cultural resources, including shovel testing. Two prehistoric archaeological sites were identified in this area, which are not eligible for the National Register of Historic Places; and one historic site (the Weyerhaeuser Mill) which is eligible.

CO9-15

This comment letter contained attachments that did not directly comment on the DEIS. These attachments have been reviewed and any relevant information found was incorporated into the analysis as applicable; however, the attachments are not included in this Appendix to the FEIS. The entire comment letter, including these attachments, is available on the eLibrary filed under accession number 20150120-0007.

20150126-0093 FERC PDF (Unofficial) 01/26/2015

ORIGINAL



143 SE Lane Avenue
Roseburg, Oregon 97470

January 16, 2015

Kimberly Bose, Secretary, FERC
888 First Street NE
Washington, D.C. 20426
RE: Jordan Cove Energy Project Draft Environmental Impact Statement
Docket # CP 13-483
CP 13-492

Dear Secretary Bose,

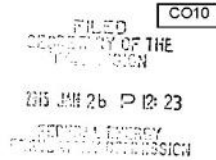
The Board of the Douglas County Global Warming Coalition of Douglas County, Oregon strongly opposes the construction of the Jordan Cove Energy Project. Specifically, the Draft Environmental Impact Statement fails to properly evaluate the significant impact this project will have on climate change.

Data from the Environmental Protection Agency shows that once Oregon's only coal plant closes in 2020, this project will be the highest greenhouse gas emitter in Oregon. Over the next thirty years, Jordan Cove would add sixty-three million tons of deadly greenhouse gas pollution to the atmosphere. To put this figure in the proper context, a recent United Nations report warned that at the rate we are burning fossil fuels - and this includes projects such as Jordan Cove - in thirty years we will be condemned to a nearly 4 degree temperature rise or higher. Given its high level of greenhouse gas emissions, Jordan Cove clearly cannot be viewed in isolation but must be measured in terms of its cumulative effect on climate change.

Equally clear is the intent of the Obama Administration to demand Federal agencies be held to this standard. Draft guidelines released in December by the White House's Council on Environmental Quality called on Federal agencies to consider greenhouse gas emissions and climate change impacts for environmental reviews under the National Environmental Policy Act. Among the agencies which fall under these guidelines is the Federal Energy Regulatory Commission. These guidelines also encourage consideration of alternatives that have smaller carbon footprints.

In addition, the recent agreement between President Obama and China stipulated the United States would reduce greenhouse gas emissions 28% over the next ten years. Yet, the United Nations has found that our efforts are being offset by our exports of these dirty fossil fuels such as those proposed by Jordan Cove.

The need to address climate change immediately and dramatically cannot be overstated. The National Oceanic and Atmospheric Administration stated that last year, 2014, has become the hottest year on record. Here in Oregon, the devastating impacts of climate change are already being felt. According to the National Climate Assessment released in March, 2014, ocean acidification, melting snowpacks and increased wildfires are being caused by global warming now.



CO10 Douglas County Global Warming Coalition

- CO10-1 Climate change was addressed in section 4.14.3.12 of the DEIS. See the response to IND1-1.
- CO10-2 Project generated GHG emissions were discussed in section 4.12.1.4 of the DEIS. See also the response to IND1-1.
- CO10-3 The draft guidelines specify (p. 7) that "In light of the difficulties in attributing specific climate impacts to individual projects, CEQ recommends agencies use the projected GHG emissions...as the proxy for assessing a proposed action's potential climate change impacts." This is what was done; (i.e., GHG emissions are presented in Section 4.12.1.4). That being said, we have also identified the importance of climate change as a cumulative impact in Section 4.14.3.12. Modifications to the text in these sections have been made to clarify.
- CO10-4 Comment noted.

20150126-0093 FERC PDF (Unofficial) 01/26/2015

CO10 Continued, page 2 of 2

Jordan Cove Energy Project
Draft Environmental Impact Statement
Docket # CP 13-483
CP 13-492

The Douglas County Global Warming Coalition is an all-volunteer, grassroots organization representing four hundred citizens in our community. Since 2003, we have been dedicated to promoting positive solutions to the climate crisis and a substantial reduction in the use of fossil fuels. The Draft Environmental Impact Statement fails to recognize the significant contribution the Jordan Cove Energy Project makes to climate change and the context in which these emissions would be released. We urge you to reject this project for the well-being of our country, future generations and the planet on which we all live.

Sincerely,

The Board of The Douglas County Global Warming Coalition

Neal Hadley
Jim Long

Arthur Chaput
Gabe Dumm

Dick Dolgonas
Polly Stirling

Ruth Kaser
Stuart Liebowitz

20150128-0024 FERC PDF (Unofficial) 01/28/2015

CO11

ORIGINAL

CPB-492
CPB-483



January 22, 2015

Governor John Kitzhaber
160 State Capitol
900 Court Street
Salem, Oregon 97301-4047

Dear Governor Kitzhaber,

JACKSON COUNTY DEMS OPPOSE JORDAN COVE PROJECT

The purpose of this letter is to state that the Jackson County Democrats are opposed to the Jordan Cove LNG (Liquefied Natural Gas) export terminal and the Pacific Connector pipeline. We are asking that all agencies, State and Federal, deny permits for this project. This project is not in the public interest locally, Oregon, or globally. We feel that the Canadian company, Veresen, is taking economic advantage of four economically-stressed counties in Southern Oregon. They are "offering" short-term financial gain and a few jobs in exchange for very long-term environmental destruction, not only in Southern Oregon, but on a global scale, through increased climate change emissions.

The terminal would radically change the Port of Coos Bay. It would require the moving of six million cubic feet of bay sediment, portions containing toxic chemicals, to create a slip for ships and raise the tsunami-prone spit 40 to 60 feet. The completed liquefaction and power plants would cover 500 acres. The proposed pipeline would run through 232 miles of public Bureau of Land Management (BLM), U.S. Forest Service, and private land. It crosses three major rivers, including the Rogue River and 400 tributaries, where salmon and other wildlife restoration projects have been making gains. It will negatively impact Southern Oregon's world-class recreational and scenic rivers with loss of fish habitat, increased water turbidity events, and other consequences from potential catastrophic events. The pipeline would require taking down a swath of trees 90' wide, scarring the landscape and devaluing all nearby private property values.

CONFLICTING REGULATIONS

Current BLM and Forest Service Land Management regulations do not allow such construction intrusions upon public lands so those plans will need to be revised - to the detriment of well-thought out and focused efforts to manage wisely our natural resources. Furthermore, many private property owners fear the taking of their land by eminent domain. Is it true that out of country corporations now have gained the right of eminent domain over U.S. citizens when the benefit accrues only to the foreign corporation? Eminent domain was never intended for the right and benefit of private foreign corporations over wishes of U.S. landowners as in the present case. There is no benefit to American landowners through this action.

Jackson County Democratic Central Committee
P.O. Box 4474, Medford, OR 97501 Phone (541)858-1050 Fax (541) 776-7862
mail@jcdemocrats.org www.jcdemocrats.org

CO11 Jackson County Democrats

- CO11-1 The current BLM and Forest Service land management regulations (43 CFR 1600 and 36 CFR 219) do not preclude the placement of energy transmission facilities on BLM and Forest Service public lands, and BLM specifically has the authority to grant ROWs for energy transmission facilities on Federal lands. The BLM and Forest Service have proposed site-specific amendments (under these same authorities) to some of the management direction in the LMPs. No revisions of LMPs have been proposed by the BLM or Forest Service for the PCGP project. As part of the consideration to amend specific portions of LMPs the BLM and FS have prepared compensatory mitigation plans that would ensure the objectives in the respective LMPs could be maintained if the PCGP project was approved and constructed (see section 2.1.4 and appendix F of the DEIS.
- CO11-2 The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947.

CO11-1

CO11-2

20150128-0024 FERC PDF (Unofficial) 01/28/2015

PROOF OF WHO PAYS

Will Veresen be asked to post a catastrophe bond to cover costs of potential mudslides, explosions, loss of groundwater, and other events resulting from forest clearing and pipeline burial, unforeseen fires from pipeline breaches, etc.? Other negative impacts and risks are anticipated by many scientists. For example, in Coos Bay and along the entire pipeline route, one major risk is pipeline rupture or slow leakage due to natural causes, including flash flood stresses on the pipeline where it crosses under rivers. Furthermore, researchers say a massive earthquake and tsunami could soon strike the Northwest U.S. coast, capable of killing more than 10,000 people, flooding entire towns, and causing economic damages totaling \$32 billion. And that is without taking into consideration potential LNG pipeline ruptures.

CO11-3

ENVIRONMENTAL IMPACTS

It is also worth noting that the project undermines Oregon's efforts to meet its own greenhouse gas emissions goals (2007 House Bill 3543), since the terminal itself would soon be Oregon's largest polluter. In addition, the project demands increased fracked natural gas extraction with atmospheric methane leakage at every step of processing and shipping, and we find the cumulative effects of the project are likely to have an immense global warming impact. Oregon is committed to being a national leader in the arena of combating climate change. Allowing the state to serve as a conduit for the export of fossil fuels is NOT a way to meet this goal.

CO11-4

ECONOMIC IMPACTS

Many predict if natural gas is exported, domestic prices will rise because of the feedback from international price setting pressures. Ratepayers and U.S. companies that have converted from coal to natural gas will shoulder the burden. Exporting domestic natural gas undermines America's efforts for energy independence. Exporting natural gas only delays progress on sustainable energy projects and accelerates the catastrophic climate change effects.

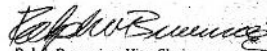
CO11-5

MISPLACED JOBS

We do have sympathy for needed jobs and new revenue sources in the Southern Oregon counties. We live here. However, we suggest that energy companies and the State and Federal governments encourage and invest in long-term, forward-looking sustainable energy projects, rather than depending on out-of-date fossil fuel developments.

CO11-6

We have a chance to make a difference in this world and in Oregon; specifically. Do not support permits for this damaging, potentially catastrophic, project in return for short-term private corporate profits. Stop it now. Support renewable wave and wind energy projects for the southern Oregon Coast and all of Oregon.



Ralph Browning, Vice Chair
Jackson County Democrats Central Committee

Cc: U.S. Senator Jeff Merkley, U.S. Senator Ron Wyden, U.S. Rep. Greg Walden, Senator Alan Bates, Rep. Peter Buckley, Rep. Tina Kotek, Rep. Betty Komp, Rep. Val Hoyle, Senator Diane Rosenbaum, FERC, Oregon DEQ

CO11 Continued, page 2 of 2

CO11-3 The FERC does not require that either Jordan Cove or Pacific Connector post bonds. However, Jordan Cove's June 10, 2014 MOU with the ODE requires the posting of a bond to cover retirement costs. Also, both companies would have insurance to cover the unlikely event of an incident. Seismic risks are assessed in section 4.2.

CO11-4 GHG emissions resulting from the Project were discussed in section 4.12.1.4 of the DEIS. This Project does not include fracking. See response to IND1-2.

CO11-5 See response to IND37-4.

CO11-6 The economic benefits of the Project were outlined in section 4.9 of the DEIS.

20150212-5044 FERC PDF [Unofficial] 2/12/2015 9:43:53 AM

**Building and
Construction
Trades**

www.BCTD.org

SEAN MCGARVEY
President

BRENT BOOKER
Secretary-Treasurer

EDWIN D. HILL
1st Vice President

JAMES A. GROGAN
2nd Vice President

NEWTON B. JONES
3rd Vice President

WILLIAM P. HITE
4th Vice President

KINSEY M. ROBINSON
5th Vice President

PATRICK D. FINLEY
6th Vice President

JAMES P. HOFFA
7th Vice President

TERRY O'SULLIVAN
8th Vice President

JAMES BOLAND
9th Vice President

WALTER W. WISE
10th Vice President

JOSEPH J. NIGRO
11th Vice President

FRANK J. CHRISTENSEN
12th Vice President

KENNETH E. RIGMAIDEN
13th Vice President

JAMES T. CALLAHAN
14th Vice President



CO12

February 12, 2015

The Honorable Cheryl LaFleur
Chairman
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Dear Chairman LaFleur:

We are writing in strong support of the Jordan Cove Energy and Pacific Connector Gas Pipeline (PCGP) Project proposed for Coos Bay, Oregon. We hope the Federal Energy Regulatory Commission (FERC) will complete the final environmental impact statement (EIS) for this project as soon as possible.

The men and women we represent are eager to go to work on this project. With work on the Intel Corporation construction project in northern part of the State beginning to wrap up, the Jordan Cove project is that much more important to our membership. In fact, this \$7.7 billion construction project (export facility and pipeline) will employ an average of 1,750 people over 42 months with peak employment being 3,000 construction jobs. This project will bring job security for nearly four years, which is almost unheard of in the construction industry and especially in Oregon. And because this is only one of two projects with a signed project labor agreement (PLA), these jobs will certainly go to our members.

Our members have significant experience working on construction projects like this one, and our organizations have a long track record of doing high quality work. More to the point, Jordan Cove and PCGP will operate where many of the men and women working on the project live with their families, send their kids to school and enjoy all of the outdoor recreational activities that Oregon's natural areas provide. In other words, they are committed to building a facility that will operate safely, and in a way that minimizes the impact on the environment.

815 SIXTEENTH ST., N.W., SUITE 600 • WASHINGTON, D.C. 20006-4104 • (202) 347-1461 • Fax (202) 628-0724

CO12 Building and Construction Trades

CO12-1 Comment noted.

20150212-5044 FERC PDF (Unofficial) 2/12/2015 9:43:53 AM

**Building and
Construction
Trades**

www.BCTD.org

SEAN MCGARVEY
President

BRENT BOOKER
Secretary-Treasurer

EDWIN D. HILL
1st Vice President

JAMES A. GROGAN
2nd Vice President

NEWTON B. JONES
3rd Vice President

WILLIAM P. HITE
4th Vice President

KINSEY M. ROBINSON
5th Vice President

PATRICK D. FINLEY
6th Vice President

JAMES P. HOFFA
7th Vice President

TERRY O'SULLIVAN
8th Vice President

JAMES BOLAND
9th Vice President

WALTER W. WISE
10th Vice President

JOSEPH J. NIGRO
11th Vice President

FRANK J. CHRISTENSEN
12th Vice President

KENNETH E. RIGMAIDEN
13th Vice President

JAMES T. CALLAHAN
14th Vice President



CO12-2

To be clear, we want FERC to do its due diligence when evaluating this project. We only hope this process moves forward without further delay so that our members can get to work.

Thank you for your consideration of these comments.

Sincerely,

[Signature]
North America's Building Trades Unions

[Signature]
International Brotherhood of
Electrical Workers

[Signature]
International Association of Heat and
Frost Insulators and Allied Workers

[Signature]
International Brotherhood of
Boilermakers, Iron Ship Builders,
Blacksmiths, Forgers and Helpers

[Signature]
United Association of Journeymen and
Apprentices of the Plumbing and Pipe
Fitting Industry of the U.S. and Canada

[Signature]
United Union of Roofers,
Waterproofers and Allied Workers

[Signature]
Operative Plasterers' and Cement
Masons' International Association
of the U.S. and Canada

[Signature]
International Brotherhood of Teamsters

[Signature]
Laborers' International Union of
North America

[Signature]
International Union of Bricklayers
and Allied Craftworkers

[Signature]
International Association of Bridge,
Structural, Ornamental and
Reinforcing Iron Workers

[Signature]
International Association of Sheet Metal,
Air, Rail and Transportation Workers

[Signature]
International Union of Elevator
Constructors

[Signature]
International Union of Painters
And Allied Trades

[Signature]
James T. Callahan
International Union of Operating Engineers

CO12 Continued, page 2 of 3

CO12-2 Comment noted.



20150212-5121 FERC PDF {Unofficial} 2/12/2015 1:29:48 PM

CO13

FERC Dockets: CP13-483-000, CP13-492-000, DEQ #54484-RF, 54908-RF, NWP-2012-441,
Army Corps: NWP-2012-441



**OREGON
WILD**

Formerly Oregon Natural Resources Council (ONRC)

P.O. Box 11648 | Eugene OR 97440 | 541-344-0675 | fax 541-343-0996
oh@oregonwild.org | <http://www.oregonwild.org/>

Petition Opposing the Jordan Cove LNG – Pacific Gas Connector Pipeline

We, the undersigned, urge all relevant state and federal agencies to reject the Jordan Cove LNG Export Terminal and the Pacific Gas Connector Pipeline.

- Liquefied Natural Gas (LNG) extracted via fracking harms our climate, water, and habitat. Methane leaks to the atmosphere throughout the production chain. Compressing gas to liquid uses large amounts of energy and cancels any argument that gas is a "bridge fuel." In order to protect our climate, we have to learn to say "NO" and leave fossil fuels in the ground.

CO13-1

- The proposed export terminal is located in a tsunami red zone. Tsunami waves may bounce around the bay and exceed the barriers designed to protect the LNG facilities.

CO13-2

- This project will harm the fragile ecosystem of Coos Bay and the North Spit. This includes impacts from construction, maintenance, shipping, ballast water, etc.

CO13-3

- The Pacific Gas Connector Pipeline from Coos Bay to Klamath Falls and beyond threatens to pollute drinking water, harm wetlands, and degrade scores of salmon bearing rivers and streams. Clearing the pipeline right-of-way will destroy thousands of acres of public forests, including old growth and habitat for endangered species.

CO13-4

CO13-5

- The proposed pipeline crosses scores of fish-bearing streams and two mountain ranges, the Coast Range and Cascades. It is unwise to build a pipeline through rugged coastal mountains that are pounded by severe winter storms and prone to landslides. There WILL be landslides and water pollution. The pipeline is also a safety hazard and a fire hazard. Outside of developed areas, rural residents are threatened by lower standards for pipeline construction.

CO13-6

- Use of eminent domain to seize private lands and allow a foreign company to access foreign markets will violate private property rights.

CO13-7

- Fracking should not be encouraged by creating an export market. Gas export will destabilize domestic markets for natural gas by tying those markets to international forces, likely increasing domestic gas prices and harming existing gas customers large and small. It makes no sense to build a multi-billion dollar export facility while energy prices are declining. The rapid bait-and-switch from LNG import to LNG export highlights the speculative and unsettling nature of this project.

CO13-8

Based on the overwhelming harms that will occur, the project is clearly NOT in the public interest and should be rejected.

Thank you for considering this petition.

[1360 signatures as of 2-11-2015, attached]

CO13 Oregon Wild

- CO13-1 Some of the natural gas supplied to the Jordan Cove terminal would have been produced by conventional means. As explained in section 1.4.4, there is no reasonable way to know exploration or production methods. The Project-specific impacts on waterbodies are discussed in section 4.4 of this EIS; impacts on habitats are addressed in section 4.5. FERC-jurisdictional transmission pipelines leak very small amounts of methane. See the responses to IND1-1, IND1-2, and IND6-1.
- CO13-2 As stated in section 4.2.1.3 of the EIS, Jordan Cove would design and construct its facilities in a manner that takes geological conditions, such as an earthquake, into consideration. Potential impacts from a future predicted tsunami on the terminal are discussed in section 4.2.1.3.
- CO13-3 Impacts on Coos Bay and the North Spit are addressed in sections 4.4 and 4.5.
- CO13-4 As explained in section 4.4.2.2, the Pacific Connector pipeline would not pollute drinking water sources. Impacts on wetlands are discussed in section 4.4.3.2; impacts on salmon in section 4.6.
- CO13-5 Impacts on old growth forest are discussed in section 4.5.1.2; impacts on endangered species are addressed in section 4.7.
- CO13-6 Thousands of miles of natural gas transmission pipelines have been safely constructed and operated through mountainous terrain. See the safety section in 4.13 of the EIS. The DOT regulates pipeline design and standards. Fire hazards are discussed in section 4.5.1.2.
- CO13-7 Property rights would not be violated; see section 4.9 of the EIS. The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947.
- CO13-8 See the response to IND37-4.

20150212-5199 FERC PDF (Unofficial) 2/12/2015 4:45:15 PM



February 12, 2015

To whom it may concern:

I am deeply concerned about the impacts of the proposed Jordan Cove liquefied natural gas (LNG) terminal and Pacific Connector gas pipeline. FERC's Draft Environmental Impact Statement for this proposal in Oregon is sorely insufficient and fails to demonstrate that there is any public need for this project.

The extraction, transport and eventual burning of fracked gas cannot be considered a bridge fuel. Natural gas is predominantly methane. Leakage occurs in drilling and production, transmission, processing and refining, and distribution (including liquefaction into LNG, its transport, regasification and redistribution). These fugitive methane emissions are critical factors in the life-cycle pollution of natural gas.

According to the Intergovernmental Panel on Climate Change, methane is 87 times more potent at trapping heat in the atmosphere than carbon dioxide over a 20-year period. Recent studies from Stanford to NASA point to the life-cycle of gas being as bad for the climate as coal. Shockingly, the impacts of this proposal on our climate are not addressed in your analysis.

Similarly, exporting gas to new markets would accelerate fracking, yet the impacts of increased fracking to feed this export project are not analyzed in your document.

We need good jobs, not temporary construction jobs in fossil fuel development. The U.S. should be a leader in shifting us away from fossil fuels and into a robust renewable energy culture. One million dollars of investment in oil and gas development creates 5 jobs. The same amount of investment in solar creates more than 14 jobs.

This project is clearly not in the public interest and is only convenient for a foreign-owned gas company. I urge you to deny the certificate for this project.

Thank you for taking the time to consider my comments.

Sincerely,

CO14

CO14-1

CO14-2

CO14-3

CO14-4

CO14-5

CO14

Friends of the Earth,

- CO14-1 The EIS evaluates the environmental effects of the Project, not the need. The Commission will consider the need in its decision.
- CO14-2 See the responses to IND1-2 and -3.
- CO14-3 The comment is correct, fracking is not analyzed in this EIS, see the response to IND1-3 for the reason.
- CO14-4 Comment noted.
- CO14-5 This comment letter contained multiple attachments that were not direct comments on the DEIS or Project. These attachments have not been included in this FEIS appendix, but can be found on the eLibrary filed under Accession number 20150212-5199.

20150213-5011 FERC PDF (Unofficial) 2/12/2015 6:19:29 PM



E.O. Box 89
Grand Junction, CO 81502

205 N. 4th St., Suite 2710
Grand Junction, CO 81501
Phone 970.733.2199
www.WSCOGA.org

CO15

CO15 Colorado Oil & Gas Association, David Ludlam

CO15-1 Comment noted.

February 13, 2015

Honorable Cheryl LaFleur
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

RE: COMMENTS OF THE WEST SLOPE COLORADO OIL & GAS ASSOCIATION: Draft Environmental Impact Statement for the Jordan Cove Liquefaction and Pacific Connector Pipeline Projects (Docket Nos. CP13-483-000 and CP13-492-000). Issued November 7, 2014.

Dear Madam Chair,

The West Slope Colorado Oil & Gas Association ("WSCOGA") applauds the Federal Energy Regulatory Commission's (FERC) conclusion in a recent DEIS that impacts associated with the proposed Jordan Cove Liquefaction and Pacific Connector project would be reduced and "less than significant" once mitigations are applied. Our association concurs with this finding and asks you expedite approval on this basis.

While we also concur impacts from the proposed action will be negligible, the positive economic benefits in communities working to produce upstream natural gas supplies for the terminal are considerable. Economic benefits from Jordan Cove, to economically challenged areas in Western Colorado, were not properly addressed in the DEIS. We ask this shortcoming be remedied in the final environmental impact statement ("FEIS"). Even if the majority of natural gas were sourced from Canada, Rockies producers would benefit from displacement of natural gas currently repressing the market and limiting economic activity in Western Colorado.

CO15-1

WSCOGA's mission is to enhance oil and natural gas production in Western Colorado while also enhancing the communities where members work, live and raise their families. Membership includes a diverse base including Fortune 500 companies as well as small businesses and individuals. The Piceance Basin is one of the nation's most reliable opportunities for investors seeking predictable natural gas well economics; delineated geology; reliable pipeline capacity; and, a stable, supportive local regulatory body. While long-term equity investments in western Colorado's natural gas reserves are ongoing, Jordan Cove will only improve confidence investors have shown in the region. The Jordan Cove project will increase the range and diversity of financial hedging tools available to long-view natural gas buyers. The project will also better help investors gauge both the qualitative and quantitative value of the Piceance Basin and what the resource offers overseas natural gas markets.

20150213-5031 FERC PDF (Unofficial) 2/12/2015 6:30:29 PM

CO15 Continued, page 2 of 3

WSCOGA believes Jordan Cove is important to our membership as the Ruby Pipeline is a direct conduit from the Piceance and Sandwash basins to the proposed terminal -the first proposed U.S export terminal providing Rockies producers with reliable, affordable access to new markets. The DEIS does not contain contemplation on the negative impacts a project denial would have on the Piceance Basin by removing one of the catalysts (the terminal) for attracting future investments in the basin.

CO15-2

CO15-2 Comment noted.

CO15-3 Comment noted.

Under the "Alternatives Considered" section the Executive Summary, FERC notes the agency did not consider other terminals from the Gulf or East Coast as being viable alternatives to the Jordan Cove project. The same summary noted those possible alternative terminals will source natural gas from reserves in the Appalachian Basin and Louisiana and Texas, respectively. Therefore, the Jordan Cove project, at this time, is the only proposed LNG export terminal in the lower 48 states that will provide Rocky Mountain natural gas production with direct access to new markets -markets already afforded to Gulf and east coast exporters by DOE and FERC. Therefore, the Jordan Cove project has a high benefit to energy producing communities in the Rockies.

The DEIS Executive Summary also briefly contemplates the economic and socio-economic benefits of the project in Oregon while completely omitting equally important economic benefits to upstream producing communities. This omission should be corrected in the final EIS. Also noteworthy is the lack of positive socioeconomic benefits to the entire Rocky Mountain region given the nationally significant connectivity to the Ruby Pipeline.

Sec. 4.9 Socioeconomics (4-786)

The socioeconomic analysis introductory paragraph notes that impacts associated with the project would occur primarily within Coos County, Oregon.

Our association requests specifically the introductory paragraph include references as to how the project will benefit upstream producing economies in the Rocky Mountain region. By providing contracts for capacity and or through modest pricing improvements for natural gas related to overall displacement, the project will benefit the economy of the Rocky Mountain region both directly and indirectly. Specifically, the Piceance Basin including Mesa, Garfield, Moffat, Rio Blanco and Delta Counties should be included as increased production and long-term access to overseas markets will improve local drilling economics; increase the likelihood of foreign investment in Piceance reserves; and, act as a catalyst for the creation of additional jobs, ad-volorem tax, sales tax, severance tax, federal mineral lease payments, energy impact grants and business personal property tax revenues.

Potential sources of data to assist the agency's description of economic benefits to Northwest Colorado include the Colorado Department of Local Affairs, the CU School of Business and Colorado Mesa University's Unconventional Energy Center.

CO15-3

4.9.1.4 Economy and Employment

Northwest Colorado has suffered economically under depressed natural gas prices and as a result of no access to overseas markets. Unemployment has increased, jobs have been reduced and general economic output has declined. These challenges have resulted in Northwestern Colorado not having a meaningful place in the ongoing economic recovery. Annual per capita income in many Northwest Colorado communities lags behind the national average as does median household income.

Page 2 of 3

20150213-5031 FERC PDF (Unofficial) 2/12/2015 6:30:29 PM

While Jordan Cove's socio-economic consultant prepared an analysis of economic impacts of the construction and operation of the LNG Terminal Project itself, the analysis did not include interviews with Western Colorado counties and economic development agencies who will benefit by increasing access to new markets for natural gas. This omission should be remedied.

4.9.1.5 Tax Revenues

In Northwestern Colorado revenue streams from upstream natural gas production fund school districts, special districts, state agencies, infrastructure projects and provide enormous revenue to support infrastructure. The Final EIS should include benefits to upstream communities in the form of increased tax revenues that will result when Rockies producers have access to new markets via the Ruby and Pacific Connector pipeline projects.

Pipeline Capacity Utilization

Recent national pipeline infrastructure build-outs included the Ruby Pipeline. In the final EIS approving the Ruby pipeline's construction, socioeconomic narratives described the local, regional and national economic benefits of the pipeline project. Unfortunately, today, capacity on the line is underutilized averaging 61% capacity utilization. (Harpole, pg 17 2015). The Jordan Cove Project may represent future economic benefits by allowing for more efficient use of current interstate pipeline systems while also helping justify future Ruby Pipeline expansion which would also provide additional economic benefits to communities along the pipeline route as well as upstream natural gas producing communities.

Congress is passing legislation in attempts to remedy delay and malaise around terminal approvals. In the spirit of echoing congressional intent we ask FERC to approve this important project without delay so proponents can move forward with a final investment decision.

Best wishes,



David Ludlam, Executive Director
West Slope Colorado Oil and Gas Association

CO15-4

CC: Honorable Senator Michael Bennet
Honorable Senator Cory Gardner
Honorable Representative Scott Tipton

Page 3 of 3

CO15

Continued, page 3 of 3

CO15-4

This comment letter contained multiple attachments that were not direct comments on the DEIS or Project. These attachments have not been included in this FEIS appendix, but can be found on the eLibrary filed under Accession number 20150212-5199.



CO16

February 12, 2015

Chairman Cheryl A. LaFleur, Commissioner Philip D. Moeller,
Commissioner Tony Clark, Commissioner Norman C. Bay,
Commissioner Colette D. Honorable
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Jordan Cove Liquefaction and Pacific Connector Pipeline Projects (Docket Nos. CP13-483-000 and CP13-492-000)

Dear Commissioners:

Green America is a national non-profit organization with 180,000 individual members and 3,500 business members nationwide, and several thousand individual members and over 100 businesses in Oregon. Our green business network is the largest network of certified green business in the United States. Green America is also a member of the American Sustainable Business Council, which represents over 150,000 businesses nationwide.

On behalf of our members, we are expressing concerns about the possible environmental impacts of the proposed Jordan Cove Liquefaction and Pacific Connector Pipeline Projects. We are also concerned that FERC's Draft Environmental Impact Statement (EIS) underestimates the impacts and risks associated with this project.

In particular, we have concerns about the following:

Climate Change Impacts. The Draft EIS fails to take account of the climate change impacts of Jordan Cove and the Pacific Connector Pipeline Project. Jordan Cove would likely become the largest greenhouse gas emitting project in Oregon within the next decade. The project would release an estimated 2.1 million metric tons of carbon dioxide and equivalents. Oregon has set aggressive goals for limiting greenhouse gas emissions, and Jordan Cove would work to undermine them.

The power plants used to liquefy natural gas would operate with a capacity of 420 megawatts, which is enough energy to power 400,000 homes. In addition, the venting of natural gas will also significantly increase emissions, and there will be methane leaks from the pipeline and at the plant. Methane has heat trapping properties 87 times as great as carbon dioxide.

Green America requests that FERC more fully research the greenhouse gas emissions of the projects and their impacts on Oregon and its greenhouse gas reduction targets.

Increased Fracking. Jordan Cove and other LNG shipping facilities are accelerating US exploration of natural gas, much of it through fracking. Research is increasingly highlighting the negative

CO16-1

CO16-2

CO16

Green America, Todd Larsen

CO16-1 See the response to IND1-1.

CO16-2 See the response to IND1-3.

1612 K Street NW, Suite 600 Washington, DC 20006 T. 800.58.GREEN F 202.331.8166 www.GreenAmerica.org

CO16 Continued, page 2 of 2

CO16-3 The analysis did not concur with the opinions of these two scientists.

environmental impacts of fracking on local communities. Fracking is tied to water and air pollution, significantly increased seismic activity, and degraded infrastructure. Jordan Cove would work to increase these impacts in order to ship natural gas overseas. Thus, the natural gas in question would not even benefit US communities, and shipping natural gas overseas could also contribute to an increase in the price of natural gas for US consumers.
Green America requests that FERC better account for the impact of the Jordan Cove project on communities impacted by fracking.

CO16-2
continued

The danger to the community surrounding Jordan Cove. In FERC's draft EIS, the agency states that it believes "the facility design proposed by Jordan Cove includes acceptable layers of protection or safeguards which would reduce the risk of a potentially hazardous scenario from developing into an even that could impact the off-site public." However, two well-recognized scientific experts, Jerry Havens, of the University of Arkansas, and James Venart, emeritus professor at the University of New Brunswick, have called FERC's assessment into question. The two scientists point out that the use of propane and ethylene, two highly flammable gases, create a risk for explosion and that the 40 foot impermeable barriers around the proposed plant could actually retain vapor leaks contributing to an increased hazard in the event of an explosion.

CO16-3

The risks are not theoretical. Explosions in the last decade in Algeria and more recently in Washington State have left environmentalists, emergency responders, and citizens living near proposed LNG facilities in the U.S. understandably concerned.

LNG can vaporize and form highly explosive clouds in pipelines and other parts of the facility if its container leaks. In a phenomenon called rapid phase transition, the heat transfer from spilling enough water at room temperature on the subzero LNG can cause a tremendous "cold explosion."

FERC should more thoroughly evaluate the risk of explosion at Jordan Cove and the potentially catastrophic impact on local communities.

Based on the known climate change impacts and increased fracking impacts, combined with the potential for catastrophic explosions, Green America believes that a complete and rigorous assessment of the costs versus benefits of Jordan Cove would result in a recommendation that the project be terminated.

We would be happy to discuss any of the above concerns with FERC Commissioners and we thank you in advance for your attention to these comments.

Sincerely,



Todd Larsen
Corporate Responsibility Division Director
Green America

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Cascade Wildlands, Francis Eatherington



CO17

February 12, 2013

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE., Room 1A
Washington, DC 20426

Comments on the
Jordan Cove Energy and Pacific Connector Gas Pipeline Project
Draft Environmental Impact Statement
Docket Numbers CP13-483-000 and CP13-492-000

Table of Contents

1. Timber Sale Issues	2
2. NWFP, Plan Revisions and mitigations.....	4
3. Climate Impacts	5
4. Marine mammals and Mud Shrimp	6
5. Airport.....	7
6. Earthquake and tsunami safety	9
7. New Canissa	10
8. How much gas is being exported.....	11
9. Purpose and Need	12
10. Other NEPA issues	13
Including Documents not available, Gas movements between pipelines, Pipeline "subject to attack", Heat and Electrical Charges, Communication Towers, and Commenting.	
11. Supporting Documentation	16

Kimberly Bose,

Please consider these comments from Cascadia Wildlands on the Draft Environmental Impact Statement (DEIS) issued November 11, 2014 for the Jordan Cove Energy Project and Pacific Connector Pipeline. Cascadia Wildlands is a non-profit conservation organization located in Eugene, Oregon representing approximately 6,000 members and supporters. Cascadia Wildlands works to protect and restore the wildlands and species in the Cascadia bioregion. Many of our members utilize the project area for hiking, fishing, and other recreation and work-related activities.

POB 10455 Eugene OR 97440 - ph 541.434.1463 - f 541.434.6494 - info@cascwild.org
www.CascWild.org

20150213-5040 FERC PDF (UnoOfficial) 2/13/2015 12:58:32 AM

1. Timber Sale issues

Pacific Connector Gas Pipeline (PCGP) estimates 17,379 mmbf of timber will be cleared on federal lands, 10 mmbf on BLM and 7.4 on Forest Service lands¹. The DEIS descriptions of how these timber sales will be implemented has a number of problems.

The BLM will require Pacific Connector to purchase trees contractors have damaged in the Uncleared Storage Areas (UCSAs).² This is a perverse incentive to damage trees in the Uncleared Storage Areas. Instead, the BLM should financially penalize companies for all damaged trees in the UCSAs, and *not* allow them to be cut and sold. If a tree must be cut because it was made a hazard, it should be left on site. It is usual in other BLM timber sales for the contractor to be penalized for any reserve trees that are damaged, so PCGP should not be given a special exemption, at least not without an explanation of why they deserve it.

Incredibly, the Right of Way Clearing Plan says the BLM will "abstain from penalizing Pacific Connector for unauthorized use (trespass)."³ Why? No other operator is forgiven unauthorized use, trespass, and penalties for damaging retained trees. The same plan for the Forest Service is different from BLM. The Forest Service says "liquidated damages are assessed"⁴ if unnecessary damage occurs to retained trees. Only on BLM land are damages forgiven. The BLM must explain why they are different from the Forest Service and why this contract would be different from their usual timber sale contracts.

Hundreds of acres will be clearcut, yet the required 6 to 8 trees dispersed through the stand will not be retained, as required by the Northwest Forest Plan. No mitigation was offered for this violation.

The Forest Service provisions for selling logs to Pacific Connector includes a tracking system to assure logs are not exported.⁵ The BLM has no similar plan. Since the BLM timber is mixed in the O&C Checkboard with private lands, where export is allowed, it is especially important for the BLM to have a tracking system at least as good as the Forest Service. But instead, the BLM has no way of assuring that public timber is not exported. This must be changed, or, the BLM must explain why it is incapable of implementing a tracking system, when the Forest Service has one.

Trees cut in Riparian Reserves (RRs) and Late Successional Reserves (LSRs): The BLM and Forest Service treat RRs and LSRs differently. "Trees cut within the Riparian Reserves and LSRs on BLM lands will be disposed of as determined by Pacific Connector."⁶ But on Forest Service lands, "Trees cut within the Riparian Reserves and LSRs on USFS lands will be left in place or decked as specified by the USFS to meet land management objectives...."

¹ Right-of-Way Clearing Plan, Appendix U of the Plan of Development, January 2013, Page 2.

² RoW Clearing Plan, page 4.

³ RoW Clearing Plan, page 5.

⁴ RoW Clearing Plan, Page 6.

⁵ RoW Clearing Plan, page 5.

⁶ RoW Plan, Page 8.

CO17 Continued, page 2 of 16

CO17-1 Neither agency proposes to "forgive" damages to trees in the UCSAs. The BLM will hold PCGP financially responsible for all trees cut or damaged in the UCSAs. BLM does not have the authority to sell timber and retain it on site. Forest Service operates under different legal authority and can retain trees that have been cut and direct their use.

CO17-2 The green tree retention standards in the NWFP are directed at timber management activities in the Matrix and do not apply to removal and management of vegetation for a right-of-way authorization.

CO17-3 The export of logs from clearing the right-of-way on BLM and Forest Service lands is restricted. The restrictions would be stipulated in the agencies' contracts for the sale of right-of-way timber. They are also detailed in the Plan of Development filed with FERC by the applicant. Section 2.1.5 of the DEIS will be revised in the Final EIS to address this comment.

CO17-4 This comment addresses the Right of Way Clearing Plan in the Plan of Development, not the DEIS. The full sentence for the Forest Service reads: Trees cut within the Riparian Reserves and LSRs on USFS lands will be left in place or decked as specified by the USFS to meet land management objectives if determined necessary by the USFS (emphasis added). The BLM does not have a similar authority whereby a purchaser would cut timber and BLM would retain it on site. The BLM does have the authority to allow a purchaser to use timber they have bought for another purpose on the project, like LWD in the streams. The BLM and USFS are not double counting mitigation. The off-site mitigation actions proposed in the compensatory mitigation plans are in addition to any project requirements and design features that are on-site.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 3 of 16

It is unclear why the BLM will allow Pacific Connector to dispose of these trees as they see fit, while the Forest Service retains control over reserve trees. Reserved trees were never calculated as part of the BLM timber volume PSQ. They are meant only for wildlife. Therefore, the BLM should use them for wildlife restoration. The BLM knows better than Pacific Connector how to implement the Northwest Forest Plan.

If the BLM allows Pacific Connector to put these logs in the stream, the Pacific Connector cannot take mitigation credit. Pacific Connector cannot use an action that requires mitigation (cutting trees in a reserve) to mitigate another action that requires mitigation (removing shade along streams). This would be double counting mitigations.

The BLM will allow Pacific Connector to use feller bunchers on slopes up to 50%. This is excessive and damaging to soils. The Roseburg BLM doesn't allow local operators to use a feller buncher in this manner, why would BLM give Pacific Connector special treatment? For instance, the BLM's Thunderbolt Timber Sale EA said: "Feller-buncher systems are not commonly used on the Roseburg District but one operation that was monitored resulted in 7-9 percent of the ground-based area being detrimentally compacted."⁷ That is the highest percent of ground-based detrimentally compacted soil of any harvesting type. For instance, a harvester forwarded impacts only 3-6 percent of the area, and hand falling using a cut skidder only had 5-8% detrimental impacts.

If feller-bunchers are allowed at all, their use should be restricted during the driest time of the year (generally between July 15 and September 30) and limited to slopes 35% or less, never on 50% slopes, which is what the BLM will Pacific Connector to do.

The BLM has not allowed any feller-bunchers in recent sales, such as in the Camas Blooms decision. The reason given in that particular sale is that "Field review shows past feller buncher operations on these soil types have yielded unacceptable levels of soil compaction."⁸ This finding is particularly relevant for the Pacific Connector Pipeline, because the Camas Blooms sale is within ½ mile of where Pacific Connector wants to use feller-bunchers that is otherwise not allowed by the BLM.

It is unclear if the BLM has reviewed these plans and approved them. If so, why is the BLM allowing a foreign corporation to have more environmentally damaging logging practices than local timber operators who bid on, for instance the Camas Blooms timber sale. (It was sold January 27, 2015). The DEIS failed to explain this.

The 230-mile, 100' wide pipeline route will cause a total of 2,088 acres of forests to be clearcut. A total of 34,746 mbf (thousand board feet) will be harvested (about 7,000 log truck loads). Of the total clearcuts, 17,379 mbf comes from public forests (7,411 FS and 9,968 BLM) from 707 clearcut acres. 14,215 mbf is mature and old growth forests with an average DBH of 39" on 248 acres to be clearcut. Most of that is on federal lands (137

CO17-4
continued

CO17-5

CO17-5 This is not a BLM forest management action. It is a pipeline construction project that if approved would occupy federal lands under a right of way grant. The EIS has disclosed the effects and consultations with appropriate agencies has been conducted. Agency decisions made under these conditions may allow for the use of feller-bunchers on steeper slopes than typically used for timber management actions.

⁷ Thunderbolt EA. November 2013. Roseburg BLM. Page 78.

⁸ Camas_Blooms Decision. 11-20- 2014. Roseburg BLM. Page 3.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

acres on FS, 75 acres on BLM, and 36 acres private land).⁹ These figures come from 2007 data. The trees have grown in the last 8 years, so these are underestimates.

This will be a significant amount of public and private timber to be cut in a short time, in one linear area. The DEIS failed to consider the economic impact on the market value of logs. The DEIS also failed to consider that the 50' width of permanently deforestation will have a negative economic impact.

CO17-6

Roads: Some of the roads being called "existing" do not exist as an engineered road. For instance, the road mapped from South Myrtle road, accessing the pipeline route near MP 86, is actually a user-created OHV recreational trail. The DEIS is mistaken calling this an existing road.

CO17-7

2. Northwest Forest Plan, Forest Plan Revisions and Mitigations

The BLM and Forest Service Forest Plan Revisions proposed in the DEIS violate the standards of the Northwest Forest Plan, such as violations of the Aquatic Conservation Strategy and Survey and Manage. The changes, violations, and mitigations are so complicated, it is impossible to review them adequately within the short 90-day comment period running concurrently with the Jordan Cove Export Terminal, the South Dunes Power Plant, the 230-mile Pacific Connector Pipeline and three public holidays.

CO17-8

As FERC said at the public meeting in Canyonville, this is really 3 EIS's in one. This admission should have at least prompted FERC to extend the commenting time. Without additional public review time, the BLM and Forest Service Forest Plan revisions and mitigations should have been in a stand-alone EIS. Including everything in one NEPA document with a short public review time violates NEPA's requirement to insure that high-quality, accurate scientific analysis is available for public scrutiny.¹⁰

Revisions to the Forest Plans of three BLM districts and three National Forests include clearcutting through endangered species habitat. There are 173 occupied murrelet stands within a quarter mile of the proposed action that would be affected. 926 acres of murrelet habitat would be clearcut, including about 58 acres of suitable habitat removed from 25 stands. The pipeline route would also cross through 90 northern spotted owl (NSO) home ranges and eight nest patches. It would impact 57 activity sites occurring in federally designated Critical Habitat Units (CHUs). Project construction would remove a total of about 565 acres of Nesting Roosting and Foraging (NRF) habitat for NSO, including high-quality NRF habitat. (DEIS 4-638 and 1031). The pipeline also plows right through three Known Owl Activity Centers (KOAC) nest sites. The pipeline also crosses hundreds of streams impacting Coho Salmon, and effects many endangered plant species.

CO17-9

NEPA requires a reasonable range of alternatives, which was lacking in the DEIS. For instance, an alternative is considered for going around KOAC P2294 on page 3-42 of the

CO17-10

⁹ Plan of Development, PCGP January 2013, Appendix U, Right of Way Clearing, Table 2, page 23.
¹⁰ 40 CFR 1500.1

CO17 Continued, page 4 of 16

CO17-6 These issues are addressed in section 4.5.1., 4.5.2.1, and 4.5.2.3. Approximately 546 acres of forest would be removed from the timber base. This is a very small percentage of timber lands in the 19 watersheds crossed by the Project. For cumulative effects of timber harvest, see table 4.14.3.1.

CO17-7 Comment noted. See section 4.10.2.1, it estimates that extensive roadway reconstruction outside the existing roadbed would be needed for 65 of the existing roads.

CO17-8 The BLM and Forest Service have not proposed violations of the underlying management plans. The proposed LMP amendments for the PCGP project are addressed in the DEIS within sections 2.1.3, 2.1.4, and 4.1.3. The compensatory mitigation plans proposed by the BLM and Forest Service have been designed to ensure the objectives of the LMPs could continue to be met if the project were approved and constructed (see section 2.1.4 and Appendix F). A single EIS is consistent with NEPA regulations to include connected actions in the analysis and with the Energy Policy Act of 2005 which directs Federal Agencies to prepare a single environmental analysis in reviewing energy proposals with the FERC. The 90 day public comment period for the DEIS was twice the required 45 day comment period in the NEPA regulations (40 CFR 1506.10(d)).

CO17-9 The BLM and Forest Service have proposed site specific amendments to their LMPs that would make provision for the PCGP project. Revisions of LMPs for the PCGP project have not been proposed by the BLM or the Forest Service. The impacts the construction of the pipeline would have on the environment including the impacts noted in the comment are discussed in various sections of the DEIS (e.g. see sections 4.1, through 4.7).

CO17-10 Chapter 3 analyzes a reasonable range of alternatives. NEPA doesn't require all possible alternatives be analyzed.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 5 of 16

DEIS. Incredibly, the analysis doesn't mention the KOAC is impacted by the Preferred Alternative while the 2007 alternative avoids it.

CO17-10
continued

Mitigations proposed for violation of the Northwest Forest Plan and Forest Plan Revisions were also inadequate. For instance, thinning in the old growth forests of KOAC P2294 is proposed as mitigation¹¹ for clearcutting through the KOAC. Another example is the heli-ponds being put on private land yet used for mitigation of impacts on BLM land. And at least one heli-pond (at MP 28.3) is in the exact same place as a hydrostatic water discharge site, enabling Pacific Connector to dispose of toxic water and call it mitigation for taking marbled murrelets.

CO17-11

The Northwest Forest Plan (NWFP) (C-17) states that pipelines through LSRs should be planned to have the least possible adverse impacts on LSRs. "New access proposals may require mitigation measures to reduce adverse effects on Late-Successional Reserves. In these cases, alternate routes that avoid late-successional habitat should be considered."¹² The DEIS failed to document consideration of alternate routes around all LSRs, such as the unmapped LSR at MP 86 (KOAC P2294) described above.

CO17-12

The NWFP (C-17) only allows new developments in LSRs, like the Pacific Connector Pipeline, when they "address public needs or provide significant public benefits". Profits for a corporation in a foreign country, and their stakeholders, does not meet the "public benefit" test the Forest Service and BLM will be making. While we do not yet have the BLM and Forest Service's assessment of public benefit, the NWFP requires they do their own public-benefit analysis for these LSRs and not rely on a non-specific analysis, such as the December 2013 DOE analysis.

CO17-13

3. Climate Impacts

The DEIS says (4-1-41) the Intergovernmental Panel on Climate Change (IPCC) "is the leading international, multi-governmental scientific body for the assessment of climate change" and seems to respect their science. In spite of this, the DEIS failed to include IPCC's latest science¹³. For instance, the IPCC says that most of world's electricity must be produced from low-carbon sources by 2050. If not, the world faces "severe, pervasive and irreversible" damage¹⁴. The report says that reducing emissions is crucial if global warming is to be limited to 2C, a target acknowledged as the threshold of dangerous climate change. Renewable energy sources will have to grow to 80% by 2050¹⁵.

CO17-14

2050 will be about 30 years after the Jordan Cove project is built, far short of it's expected working age. The DEIS failed to consider if the cumulative impacts of Jordan Cove contribute toward only 20% of world-wide GHG emissions in the years

¹¹ Appendix F Figure 6-2, "Mitigation Actions on the BLM Roseburg District" shows MP 86, the KOAC site, has a fuels reduction project. Figure 2.2-27 in Appendix H also shows "Fuel Treatment" at MP 86. Figure 4 in the April 2014 CMP shows mitigation site #79 "Fuel_Treatment_Buffer2" at MP 86 and inside the KOAC.

¹² NWFP C-19.

¹³ IPCC Fifth Assessment Synthesis Report. Climate Change 2014 Synthesis Report. November 1, 2014

¹⁴ IPCC Report. SPM-7.

¹⁵ IPCC Report. SPM-19.

Jordan Cove DEIS comments from: Cascadia Wildlands

5

CO17-11 The BLM and Forest Service have not proposed to violate the NWFP or to prepare LMP "Revisions" for the PCGP project. The proposed BLM and Forest Service compensatory mitigation plans for the PCGP project are discussed in section 2.1.4 and Appendix F of the DEIS including the rationale for the proposed actions. The mitigation plans are considered as a whole and are aimed at maintaining the objectives of the LMPs that would be affected by the PCGP Project. The BLM is currently proposing to place heliponds on private timber company lands with the cooperation of the timber companies for the purpose of improving fire protection on public and private lands. This is in mutual interest since the ponds would benefit all land owners in the area. Additional discussion has been added in the FEIS. There is no proposal to fill the ponds with discharge water from hydrostatic testing.

CO17-12 The efforts to avoid and minimize adverse impacts to LSRs is discussed in the DEIS in section 3.4.3.2, 3.4.3.3, 4.1.3.6 and Appendix H of the DEIS. Due to the density of the LSR network in SW Oregon avoiding all LSRs would require locating the pipeline route entirely on private land or on Highways. Consideration of these routes is also discussed in the DEIS in section 3.4.1 and in Resource Report 10 attached to PCGP 2013 application to FERC. Less than 2 acres at the southern edge of KOAC P2294 would be cleared for the PCGP project (see Figure 4.1-20 of the DEIS).

CO17-13 As stated in section 3.4.3.1 of the DEIS. "The Commission will consider the need and public benefit of this Project when making its decision on whether or not to authorize it, as documented in the Project Order. The cooperating agencies will consider public benefit within the context of each agency's respective authorities. Each cooperating agency will document its decision in the applicable permit, approval, concurrence, or determination."

CO17-14 The Jordan Cove facility would contribute to the worlds' greenhouse emissions as disclosed in section 4.12.1.4. See table 4.12.1.4-1 for the total Project CO2 equivalents. What percent of the world-wide GHG emissions this would be 35 years from now is unknown. See section 4.14.3.12 for a discussion of climate change.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 6 of 16

approaching 2050. If Jordan Cove's contribution, in cumulative effects with other fossil fuel use, exceeds the 20% limit of fossil fuels, the DEIS failed to consider the "severe, pervasive and irreversible" damage to our ecosystems.

CO17-14
continued

The DEIS quantified (4-895) greenhouse gasses (GHG) that could be emitted by Jordan Cove Terminal site when the project is implemented: 2,100,755 CO₂e a year. What the DEIS failed to consider is that after Oregon's only coal plant, Boardman, closes the Jordan Cove facility will be the highest polluter of GHGs in Oregon. This fails to meet Oregon's carbon reduction goals.

The DEIS reports that these emissions, combined with the quantity of natural gas associated with the estimated 90 LNG vessels per year, would be an astounding 15 million mt/yr of CO₂e. The DEIS considered this to be just 6 to 12 percent higher than domestic natural gas and up to 48 percent less than coal. However, this doesn't count additional GHGs from methane leaks from extraction, transportation, and processing. Unburned methane is 86 times more potent than coal. If the DEIS had considered this correctly, the emissions would be much higher.

CO17-15

The DEIS says (4-1043) "...it is impossible to quantify the impacts that the emissions of GHG from construction and operation of the Project would have on climate change." It's not impossible. An estimate is entirely possible. The FERC is required to consider climate change from fossil fuels in the DEIS, especially since increased extraction of fossil fuels is Veresen's stated purposes of this Project (more about this in section 12 below). In the JCEP Resource Report 1, Veresen is clear about how much increased natural gas extraction will occur if this project is approved. Add that to the known amount of fugitive methane caused by that extraction, and FERC could have made a good cumulative impact analysis to global warming and climate change.

CO17-16

The DEIS also failed to consider the impacts of climate change on the facility. For instance, rising sea waters means higher tides, especially during storms.

CO17-17

4. Marine mammals and Mud Shrimp

The DEIS failed to fully consider the gray whale migration route just off of Coos Bay. Ships striking whales will increase because of the additional 180 vessel trips per year.

CO17-18

There is a harbor seal haul-out site near the Terminal location. The DEIS failed to fully consider impacts to these, and other marine mammals and bay wildlife.

Dredging the bay will degrade the habitat of the native Mud Shrimp. The DEIS failed to address this species. The shrimp are especially sensitive to disturbance. They are also dealing with the cumulative impacts of an introduced parasite infestation, a parasitic isopod called *Orthione griffenis*.¹⁶ If the dredging and the pipeline installation in the bay cause the shrimp to decline even further, it can trigger lower water quality in the bay

CO17-19

¹⁶ http://theworldlink.com/news/local/invader-kills-off-mud-shrimp/article_fa08c2d9-47e9-5cb8-83d3-6bad07ec3bdf.html

- CO17-15 See the response to IND1-2 concerning leaks. The continued operation of Boardman coal fired generating plant or the end of its operation are beyond the scope of this analysis.
- CO17-16 Your comment on quantifying the Project's effect on climate change is noted. See the response to IND1-3 in regard to fracking.
- CO17-17 The facility is being designed to withstand a tsunami, this should be sufficient to withstand a higher tide.
- CO17-18 See section 4.7.2.1, including the migration route and the risks to whales from tankers crossing that route.
- CO17-19 Ballast water, dredging, and effects on marine species are all discussed in section 4.6.2.1 of the DEIS. Note that the waterway has been dredged for decade and until recent years, ships have visited the bay for decades. See section 4.6.2.1 for a comparison to the expected project effects to the current annual dredging effects.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 7 of 16

since the shrimp are filter feeders. Scientists have determined that "In Oregon estuaries, mud shrimp filter as much as 80 percent of the bay water per day"¹⁷. They are also an important food source for birds, fish, and other animals. The DEIS failed to consider the impacts to the bay ecosystems if the Jordan Cove Project reduces Mud Shrimp populations even further. The invasive parasite arrived in the ballast water, probably on container ships sailing from Japan¹⁸. The DEIS also failed to consider increased ballast water discharge impacts like this from increased vessel traffic.

CO17-19
continued

The DEIS failed to take into consideration the impacts of invasive species from the discharge of ballast water off the Oregon coast. While regulations require disposal further off-shore, accidents and violations occur. For instance, the Tokyo-based Marine Ace Company illegally discharged ballast water into state waters on May 19.¹⁹ The DEQ fined them \$15,600, but the invasive species remain, threatening to do millions of dollars of damage to Oregon. The DEIS should have considered the reasonable foreseeable impacts from violations or human error on ballast water discharge.

CO17-20

5. Airport

The Southwest Oregon Regional Airport is located just across the bay, and within one mile of the LNG Terminal. One of the runways points directly at the LNG holding tanks. The DEIS failed to consider the impacts to the LNG Terminal and to the regional airport from a terrorist attack or an airplane accident.

CO17-21

Jon Wellinghoff, FERC chairman in 2009, was concerned about this when Jordan Cove was being proposed as an import terminal. His comments are below²⁰:

I agree with concerns raised in the FEIS regarding the safety of siting the Jordan Cove Project less than one mile from the Southwest Oregon Regional Airport, which could result in the accidental or intentional crash of an aircraft into the LNG terminal.

First, Department of Transportation regulations state that an LNG storage tank must not be located within a horizontal distance of one mile (1.6 km) from the ends, or ½ mile (0.4 km) from the nearest point of, a runway, whichever is longer. The FEIS states that the Jordan Cove Project is 0.9 miles from the Southwest Oregon Regional Airport, which appears not to meet the Department of Transportation standards.

Second, there were a total of 39,016 aircraft operations (defined as a takeoff or landing) at the Southwest Oregon Regional Airport in 2000, but this number is expected to increase to nearly 50,000 by 2010. The FEIS ... did not address in any meaningful manner the potential effects of nearly 50,000 aircraft operations on the Jordan Cove Project within a year. On November 1, 2008, the Federal Aviation Administration (FAA) issued a limited aeronautical review for the proposed Jordan Cove Project, which considered two alternative locations for the proposed LNG storage tanks. While the FAA stated that no cumulative impacts of the Jordan Cove Project on the airport were identified, it found that both alternative LNG storage tank locations qualify as obstructions under FAA Part 77 standards...

¹⁷ http://depts.washington.edu/nwst/issues/index.php?issueID=winter_2006&storyID=782

¹⁸ http://depts.washington.edu/nwst/issues/index.php?issueID=winter_2006&storyID=782

¹⁹ <http://www.oregon.gov/deq/docs/073114japaneseshipPenalty.pdf>

²⁰ FERC Order Granting Authorization under Section 3 of the Natural Gas Act and issuing certificates. 12-17-09. <http://www.ferc.gov/whats-new/comm-meet/2009/121709/C-1.pdf>

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

The FEIS stated that the FAA's conclusion is an indication that further studies should be conducted to determine any adverse effects on operations in navigable airspace. In response to this finding, the FEIS recommends that, prior to construction of the LNG terminal, Jordan Cove should file with the Secretary documentation of continuing consultations with the FAA, and the results of any additional aeronautical studies conducted under Part 77, together with copies of any official determination of findings made by the FAA with regards to the proposed LNG terminal.

Based on the lack of discussion of the safety impacts on the Jordan Cove Project of locating it so close to an existing airport, I believe that the record lacks the information necessary to fairly evaluate whether the Jordan Cove Project is in the public interest.

The same problems identified by Jon Wellinghoff in 2009 plague the LNG Export terminal in 2015.

The FERC should also be concerned about the amount of airplane traffic that could be held up, and find the project is not in the public interest do to this economic impact. DEIS 4-841 says there were 20,761 take-off or landings at the airport in 2010.²¹ An LNG vessel could be passing the airport runway up to 4 times a week (4-842), delaying aircraft up to 10 minutes per passing. This is 40 minutes a week that aircraft could be delayed. The DEIS failed to consider the economic or polluting impacts of airplanes idling for up to 40 minutes, longer if the DEIS miscalculated the number of vessels or their time passing the airport. The DEIS states it will be up to the airport to adjust the plane traffic to reduce this idle time, but doesn't state how much advance warning will be given.

CO17-22

The DEIS states several times that "Potential impacts to this airport are addressed in section 4.10". We could not find that discussion at that location in the DEIS. Section 4.1 is hundreds of pages long, without any significant airport discussion. Section 4.1.1.3 mentions the airport expansion, but not potential impacts. Other areas in section 4.1 mention the eelgrass mitigation at the airport, but nothing about impacts to the airport. The FEIS should be more specific on where the missing information is.

CO17-23

The LNG storage tanks would only be 1.1 miles from the end of the runway, with the LNG Tankers even closer. The DEIS claims this is in compliance with DOT regulations, but the DEIS did not consider the impacts if human error or bad weather, or terrorists cause a collision of an aircraft with either a LNG Tanker or LNG Storage Tank.

The DEIS does document (4-842) that the LNG storage tank locations would exceed the "Visual Flight Rules" of the airport by 66 feet, and so the LNG storage tanks qualify as obstructions under Part 77 standards. This "is an indication that further studies should be conducted to determine any adverse effects". That review was not included in the DEIS, available for public comments.

CO17-24

Runway 4-22, the primary runway, will be expanded by 400 feet in the near future (DEIS Table 4.14.2.3-1). The DEIS failed to consider that after this expansion, it could violate the Visual Flight Rules by hundreds of feet, not just 66 feet.

²¹ We question why 5-year-old data was used. The DEIS should have consider impacts to with 2014 data.

CO17 Continued, page 8 of 16

CO17-22 Delays of a few minutes per flight (40 minutes per week) is well within the range of delays that the airport currently deals with, delays commonly result from weather or staffing problems.

CO17-23 Section 4.10 is the Transportation section, it is not the same as section 4.1, Lands. See section 4.10.1.4.

CO17-24 Our analysis of potential Project-related impacts on the Southwest Oregon Regional Airport in North Bend can be found in section 4.10.1.4 of the DEIS. In a letter to the Commission dated December 22, 2014, commenting on our November 2014 DEIS for the LNG export Project in Docket No. CP13-483-000, the Southwest Oregon Regional Airport and Coos County Airport District stated that it "strongly concurs with (the) recommendation (in the DEIS for Jordan Cove to document consultations with the FAA and submit the results of studies before Project construction) and believes that the FAA process will assure that the Airport continues to operate safely and efficiently."

20150213-5040 PERC PDF (Unofficial) 2/13/2015 12:58:32 AM

6. Earthquake and tsunami safety

The DEIS failed to consider the full implications of citing an LNG Export terminal, with two 80 million gallon LNG tanks, in an area that is expecting a subduction zone earthquake and tsunami. The Oregonian reports²²: “The region’s top seismic experts say such a quake could violently shake the entire Pacific Northwest for more than five minutes, liquefying soil, tossing massive structures off their foundations and sinking entire sections of Oregon’s coastal landmass by several meters. The damage would be most severe in areas closest to the rupture, such as Coos Bay, where the dangerous portion of the fault line passes eight miles off the coast.”

Historically such quakes have occurred every 240 years, with the last one 314 years ago. Seismologist Scientists at OSU state, “It should be an assumption that this will happen during the lifetime of the facility... From my perspective, and the probabilities, I would certainly have reservations about building one of these terminals down there.”²³

A cascading set of failures that will occur during a subduction earthquake, like multiple pipe breaks and multiple power failures, was not considered in the DEIS. The single-spill scenarios considered in the DEIS was not adequate. Major disasters usually result from multiple point failures, rather than one individual failure.

The DEIS only consider impacts within a mile of the facility, and concludes the hazard is minimal. However, the DEIS used inadequate hazard modeling techniques.²⁴ For instance, the DEIS failed to account for the highly flammable gasses, such as propane and ethylene that is subject to higher explosions than LNG. Other hazards were identified in comments that Jerry Havens and James Venart submitted in January. “We believe the hazards attending the operations at the Jordan Cove export facility could have the potential to rise, as a result of cascading events, to catastrophic levels that could cause the near total and possibly total loss of the facility, including any LNG ships berthed there,” their comment said. “Such an event could present serious hazards to the public well beyond the facility boundaries.”²⁵

Scientists are also concerned that DOT has “switched from using open-source hazard modeling software, where the underlying code was freely available for independent scientific review and verification, to proprietary models developed by private companies.” Instead, NEPA requires all references used in the DEIS to be publically available. “Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference.”²⁶ Since DOT has open-source hazard modeling software, NEPA requires that it be used, not proprietary models.

The DEIS claims that no liquefaction of sand would occur in the event of a subduction zone earthquake (ES-5). The DEIS offers no peer-reviewed, unbiased studies using data

²² http://www.oregonlive.com/business/index.ssf/2014/06/coos_bay_lng_terminal_designed.html

²³ http://www.oregonlive.com/business/index.ssf/2014/06/coos_bay_lng_terminal_designed.html

²⁴ www.oregonlive.com/business/index.ssf/2015/01/scientists_say_public_safety_h.html#incart_story_package

²⁵ www.oregonlive.com/business/index.ssf/2015/01/scientists_say_public_safety_h.html#incart_story_package

²⁶ 40 CFR 1502.21

CO17 Continued, page 9 of 16

- CO17-25 The DEIS addresses the effects in section 4.2.1.3 and the safety issues associated with the design are addressed in the applicable subsections of section 4.13.
- CO17-26 NEPA does not require that all information used in an EIS be provided to the public. For example, information on cultural sites and the nest sites of ESA-listed species are not made public but they are considered in the analysis.
- CO17-27 See section 4.2.1.3 for a discussion of the risks associated with potential liquefaction settlements within the various soil layers found at the terminal site. Section 4.2.1.4 discusses proposed soil liquefaction mitigation measures. The section references the Black and Veatch studies completed in 2014. See also response to comment PM3-46.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

open for public review to confirm this. Since liquefaction is a normal feature of earthquakes, the DEIS conclusion is frankly is hard to believe.

CO17-27
continued

Pipeline safety: The BLM has stated that once the pipeline is visible on Google Earth, "individuals or groups seeking to exploit vulnerabilities in the nation's energy infrastructure" could render the pipeline "subject to attack."²⁷ This danger was not considered in the DEIS.

CO17-28

7. New Carissa

FERC failed to consider the impacts of the intense storms that occur regularly in the ocean off of Coos Bay. While the DEIS admits (4-875) that in Coos Bay "winds can exceed hurricane force, and have been known to cause significant damage to structures and vegetation", the DEIS failed to consider the impact of these storms on LNG tankers entering or exiting the bay. They could cause an LNG Tanker to have an accident like the New Carissa accident in 1999. The DEIS incorrectly disputes this. It says (4-551):

"Some commenters raised the possibility that an LNG vessel waiting offshore to enter Coos Bay, either to avoid another ship coming out of the Port or seeking proper tidal conditions, could lose anchorage or steerage and run aground on the North Spit, like the New Carissa [sic] incident of 1999. A ship grounding would have the potential to impact aquatic resources, as oil and fuel could leak from a grounded vessel. However, a Coast Guard investigation found that the New Carissa [sic] grounding was caused by the captain's error in not having the ship well anchored.

CO17-29

This is incorrect. The main reason the New Carissa grounded was because of weather conditions, including winds of 20-25 knots. Because of the typical storms in the area, the New Carissa had to drop anchor outside of the Bay. There was some human error in anchoring the ship, but it was the storm that precipitated the accident that grounded the ship, and it was the storm that caused the ship to begin to leak fuel. 70,000 gallons of thick fuel oil and diesel leaked onto the beach. An LNG tanker would also leak fuel, or worse if loaded with LNG.

Human error is a constant that the DEIS should have conceded *will* happen. But in the case of New Carissa, the storm happened first, as it will with LNG tankers.

The DEIS says: "A pilot would board the LNG vessel to guide it through the Coos Bay navigation channel, and the vessel would be accompanied by tugs and security escort boats to keep it on course." That was supposed to happen with the New Carissa also, but a storm intervened, as will also happen eventually with an LNG Tanker.

The State of Oregon's Report on the New Carissa states: "The vessel master intended to board a maritime pilot (a Coos Bay pilot) immediately upon arrival. Then, with the pilot's assistance, the vessel would transit from the open sea to one of Coos Bay's lumber docks. As the vessel approached the port limits, however, the Coos Bay pilot advised that the weather conditions at Coos Bay would prevent the NEW CARISSA from entering Coos

²⁷ Letter dated 8-12-13 from the BLM Department of the Interior to the Rogue Riverkeeper.

CO17 Continued, page 10 of 16

CO17-28 There is always a possibility, however remote, that someone would dig down to the pipe and blow it up; however, there are far easier targets for people wishing to cause harm.

CO17-29 The New Carissa's grounding was the result of gross incompetence rather than weather. Thousands of ships sail along the west coast every year without incident. The captain of the New Carissa failed to take basic steps to ensure the ship's safety. These included dropping anchor in water too deep for the anchor to reach the bottom and not posting watch. This is not considered likely to occur in the case of LNG tankers.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 11 of 16

Bay until the following morning.”²⁸ While waiting to enter Coos Bay, “Gale conditions were experienced... with strong onshore winds”.²⁹ If it had not been for the storm, the accident would not have happened. After the Captain realized the severe weather conditions were moving the ship, “the master attempted to weigh anchor and move farther offshore. But, his efforts proved futile in the face of the strong environmental forces acting upon the vessel”. Refloating the New Carissa was attempted, but “Large winter swells relentlessly assaulted the imperiled vessel...”

While human error contributed to the New Carissa accident, it was caused by a winter storm. LNG Vessels will also encounter these intense winter storms in Coos Bay, and human error will also occur. The DEIS should have considered the impact of these two events happening together, as they did in 1999.

8. How much gas is being exported?

Different documents from the Jordan Cove Project list different volumes of gas to be shipped from the terminal. In spite of the differences, this NEPA decision restricts Jordan Cove to 0.9 Bcf/d of exports. FERC should confirm that Veresen cannot increase gas in the pipeline, or increase over 90 vessels per year, without additional NEPA consideration.

CO17-30

The Application for this project, and the Scoping Notice says, “The pipeline would have a design capacity of 0.9 Bcf/d of natural gas.”³⁰ This capacity must not be exceeded without additional NEPA. Families along the pipeline route are having their properties condemned for exporting 0.9 Bcf/d. If it’s more, impacted landowners deserve to know to enable accurate information for negotiations with Veresen when determining a fair price for condemned property.

The Department of Energy (DOE) approved a permit for Jordan Cove to export 2 Bcf/d³¹, while Jordan Cove’s application to FERC was only for 0.9 Bcf/d. Veresen has also given different numbers to media. For instance, a Reuters news story states Canadian authorities have given Veresen a “license to ship 1.55 billion cubic feet per day” to the “Jordan Cove LNG project at Coos Bay, Oregon”³² while the pipeline NEPA considers only 0.9 Bcf/d through that pipeline.

The DEIS even gives conflicting statements, saying (1-1) that 1.02 Bcf/d would be delivered to Jordan Cove Terminal. The pipeline is being designed to transport “up to” 1 Bcf/d (ES-1). The DEIS failed to explain how the pipeline could transport “up to” 1 Bcf/d, yet deliver 1.02 Bcf/d to Jordan Cove, yet have a design capacity of only 0.9 Bcf/d.

CO17-30
cont’d

²⁸ New Carissa Review Committee Report and Recommendations to the Governor of the State of Oregon, April 2000, <http://www.deq.state.or.us/lppubs/docs/cu/FinalReportRecommendationstoOregonGovernor.pdf>
²⁹ *Id.* Page 8.

³⁰ FERC Federal Register Notice 8/13/2012

³¹ Applications Received by DOE/FE to Export Domestically Produced LNG from the Lower-48 States (as of January 22, 2014). Footnote G: “Jordan Cove Energy Project, L.P. requested authority to export the equivalent of 1.2 Bcf/d of natural gas to FTA countries and 0.8 Bcf/d to non-FTA countries”.

<http://energy.gov/sites/prod/files/2014/02/17/Summary%20of%20LNG%20Export%20Applications.pdf>

³² <http://www.reuters.com/article/2014/02/20/veresen-lng-approvals-idUSL2N0LP2SC20140220>

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 12 of 16

CO17-31 The text has been revised for clarification.

Resource Report 1 for the pipeline, page 3, purpose and need, states “The primary need for Pacific Connector is to supply approximately 1.02 Bcf/d of firm transportation service to the Jordan Cove Terminal. This is significantly higher than the 0.9 Bcf/d the DEIS is considering. In fact, RRI states that up to 1.06 Bcf/d could be sent through the pipes.

The DEIS should have been consistent and considered 0.9 Bcf/d, as stated in their scoping notice, not .3 more, almost 1/3rd more that will be exported from Jordan Cove, which means 1/3rd more air pollution, more ships, more pressure in the pipeline, more risk, etc.

Making matters more confusing is Jordan Cove’s plan to deliver 0.04 Bcf/d to the Grants Pass lateral at the Clarks Branch Meter Station³³. But if that pipeline does not need the extra gas (it currently meets local needs), Jordan Cove will deliver that gas to the export Terminal instead.

9. Purpose and need

The Purpose and Need described by Veresen for this project differs substantially from the Purpose and Need described by FERC for this project. Having two Purpose and Need statements violates NEPA.³⁴

CO17-31

Veresen describes their purpose and need in their Resource Report 1³⁵. Page 2 says “The proposed Project is a market-driven response to the availability of burgeoning and abundant natural gas...”.

Veresen explains the “Need”. “The development and continuing improvement of hydraulic fracturing technology have led to increasingly efficient shale gas production...” Veresen’s Navigant Study found that “LNG exports... should be seen as instrumental in providing the increased demand to spur exploration and development of gas shale assets...”³⁶

Veresen says that demand in Oregon “is not alone sufficient to justify the investment in a pipeline like the PCGP...” Markets in Hawaii and Alaska are also not “sufficient to justify the Project”³⁷. Veresen needs the Asian markets because, they say, “If demand is growing, additional zones and/or shale wells can be drilled and fractured to meet that demand...” and “slow development of new markets for natural gas is the only things currently restricting even more gas resource development.”³⁸ Veresen’s clearly stated purpose and need is to increase development of fracking.

On the other hand, FERC’s stated purpose and need is described on page 1-13, is simply to get gas to the Jordan Cove terminal. While the Veresen statement about “market need” is repeated, FERC makes clear the purpose and need is really about Veresen’s profits.

³³ DEIS 1-1.

³⁴ 40 CFR 1502.13

³⁵ JCEP LNG Terminal Project Resource Report 1 – General Project Description.

³⁶ JCEP Resource Report 1, page 2, 4.

³⁷ JCDP Resource Report 1, Page 4.

³⁸ JCEP Resource Report 1, Appendix B.1 page 14 and 20.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

They say: "Jordan Cove would like to be the first LNG export terminal to be approved, constructed, and operated on the West Coast..."³⁹, as if winning this race met a public need.

Incredibly, in direct contradiction to Veresen's statements that markets in Oregon, Hawaii and Alaska do not justify this project, FERC's #2 purpose of this project is to supply additional gas to southern Oregon. The DEIS never justified a need for additional gas in southern Oregon. Instead, the DEIS says (1-13) "there was nearly 1 Bcf/d of unused capacity" at Malin Oregon.

The #1 purpose and need described by FERC is "to provide natural gas to the Jordan Cove LNG terminal", which is obviously to export gas to Asia for Veresen's profits. The DEIS went out of its way to avoid using the word "profit" in the purpose and need section, when that is clearly what it is all about, profits from increasing fracking. FERC goes so far as to say fracking will not be considered because it is "not environmental".³⁹ Not including the clear Purpose and Need, as stated by Veresen, is a violation of NEPA.

10. Other NEPA Issues

Other areas where the DEIS failed to make information clear to the public, in time for public response, includes the following:

Documents EIS referred to are not available to the public: 16 times the DEIS asks the applicant to file documents before the end of the comment period. Most of these have not been filed in time for public review before noon February 13. The FERC should re-open the public comment time when all information is publically available.

Besides the 16 documents not yet filed, we can't comment on a finished mitigation plan, on the biological assessment, or on FERC's opinion of the public benefit, as all of these documents, and more have not yet been released. This is a violation of NEPA, which requires all references used in the DEIS to be publically available.⁴⁰

Gas movements between pipelines were not disclosed: The DEIS failed to disclose the full impact of the 12" Coos Bay Pipeline (Northwest Natural) on the stated public benefit of this project. The 12" Northwest Natural connects to the Grants Pass Lateral along interstate 5, bringing natural gas to Coos Bay. A branch ends at the North Spit at the Jordan Cove Terminal location. The DEIS confirms (2-19) that gas from this 12" pipeline will be used at the Terminal site for the project. It says (3-6) that the Northwest Natural can deliver 0.036 Bcf/d to the North Spit Terminal site, taking it from the Grants Pass Lateral pipeline along interstate 5.

The DEIS then makes a big deal about how PCGP will put gas back into the Grants Pass Lateral at the Clarks Branch Meter Station⁴¹, claiming up to 0.04 Bcf/d will provide a

³⁹ 40 CFR 1500.1: "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality."

⁴⁰ 40 CFR 1502.21

⁴¹ DEIS 1-13, 4-822

CO17 Continued, page 13 of 16

CO17-32 The CEQ regulations at Part 1502.13 only require that an EIS should "briefly specify the underlying purpose and need" for a Project; which we have done in section 1.3 of the DEIS. The Commissioners will have a broader discussion of purpose and need in their Project Order. See response to IND1-6.

CO17-33 Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.

CO17-34 NEPA does not require that every plan and study being prepared discussed in the DEIS be presented in that DEIS. For example, the DEIS notes that a BA is being prepared. NEPA does not require that the DEIS not be submitted to the public until the BA is completed.

CO17-35 The DEIS does not make any claim about public benefit or lack thereof. The EIS analyses environmental impacts from the Project. The Commission will determine whether the Project would have a public benefit in its Public Order.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

public benefit to Oregon. But if Jordan Cove takes out 0.036 Bcf/d from the Grants Pass Lateral, and then puts it back in at Clarks Branch, the net gas for Oregon is 0.004 Bcf/d, not 0.04 Bcf/d as the DEIS claims.

The DEIS failed to make the NET amount of gas for Oregon clear in the DEIS, in violation of NEPA. The miniscule amount of net gas delivered to Oregon could be as little 0.004 Bcf/d. This cannot be used to claim a public benefit to justify condemning hundreds of family farms and properties along the right-of-way.

Hydrostatic Test Header Locations are not defined in the DEIS, even though the DEIS refers to the "header locations" on page 2-125 and shown on the alignment sheets. For example, sheet 75 shows a header location designated on over a half mile of the pipeline route. Apparently, the Test Header Locations are different than the Hydrostatic Discharge Sites, which do have descriptions. The Hydrostatic Test Header Locations, even though they are proposed on private lands, are never described or analyzed, leaving landowners wonder what is in store for them.

Heliports: The DEIS appendix D, table D-7 tell us at least 4 heliports will be built within Temporary Extra Work Areas. However, the DEIS fails to describe the heliports, what they are used for or how big they are. Assuming they will be used as helicopter landings, the DEIS failed to consider environmental impacts from helicopter noise, air pollution, potential jet-fuel spills, compacted soils, and all the other environmental impacts of a helicopter landing site.

Pipeline "subject to attack" not considered in DEIS: We asked FERC and the BLM for shapefiles, "geospatial data" of the project, so we could see the entire project on one map at whatever resolution was needed at the time. We were denied because "... the data would be accessible to individuals or groups seeking to exploit vulnerabilities in the nation's energy infrastructure, and Pacific Connector would suffer substantial commercial and competitive harm if its facilities were subject to attack."⁴²

If knowing the location of the pipeline, that everyone will see on Google Earth maps after it is built, makes it subject to attack, the DEIS should have considered this safety problem.

Several times the DEIS itself refers to what the right-of-way will look like as viewed from Google Earth⁴³ yet without shapefiles, the public can not verify this information. Additionally, the DEIS refers to shapefiles 22 times, the same shapfiles the public has been denied the opportunity to review. This violates NEPA, which states that "No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference."⁴⁴ Therefore, we should be allowed to review the referenced shapefiles or Google Earth files.

⁴² Letter dated 8-12-13 from the BLM Department of the Interior to the Rogue Riverkeeper.

⁴³ PDF page 4858. Scenery Resource Analysis for Rogue River NF. Pages 3 through 8.

⁴⁴ 40 CFR 1502.21.

CO17 Continued, page 14 of 16

CO17-36 Much of the pipeline route crosses private land. Most private landowners have not granted permission for surveys. Therefore, the exact locations will not be known until the applicant has access to the entire route, surveys are completed, and final design is completed and approved by the various regulatory agencies.

The pipeline would be tested in approximately 75 sections, each with varying lengths and water volume requirements. The 75 test header section breaks are the same thing as the hydrostatic test water discharge sites within the right-of-way. Table D-3 of Appendix D to the DEIS lists potential hydrostatic test water discharge sites within the right-of-way. Seven potential hydrostatic discharge site locations outside of the right-of-way are shown on the pipeline route and work area maps provided in Appendix C to the DEIS. It is not clear what alignment sheets the commenter is referring to; there is no sheet 75 in Appendix C. Section 4.4 evaluates hydrostatic testing. Pacific Connector filed a Hydrostatic Test Plan with FERC in January 2013 as Appendix M to their Plan of Development, available through eLibrary.

CO17-37 Table D-7 identifies rock source and permanent disposal sites. A discussion of temporary helicopter construction noise has been added to Section 4.12.2.4.

CO17-38 Safety risks are accessed in section 4.13. This information is propriety, FERC does not require the applicant to release propriety information to the public.

CO17-39 The DEIS does not state that the shape files are "incorporated by reference", it simply discusses how they were used and what they indicate. "Incorporate by reference" is a specific term under NEPA. These shape files are propriety data, 40 CFR Part 1502.19 specifically prohibits propriety data from being incorporated by reference.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

Impacts of Heat and Electrical Charge along pipeline not disclosed: The DEIS failed to consider the environmental impacts from the heat generated by the pipeline. This could impact underground wildlife, as well as impact crops where the pipeline goes through agricultural areas. "Heat from pipelines has been shown to heat surrounding soil"⁴⁵.

CO17-40

The DEIS failed to consider impacts of the electrical charge along the 230-miles of the pipeline. The DEIS states (4-22) that "Pacific Connector would protect its pipeline from corrosion over time through a cathodic protection (CP) system. The CP system would consist of a number of sites where below ground rectifier/anode beds would be installed that input a low voltage electrical charge into the pipeline." The DEIS failed to consider the environmental impact of a having a 230-mile long electrical charge through the ground, and near the surface. For instance, this could prove to be a barrier for insects, snails, or other wildlife needing to cross the right-of-way, especially wildlife that travels below the ground surface. The electrical barrier could result in isolating populations of wildlife.

CO17-41

The DEIS requires (4-22) "Prior to the end of the comment period on the draft EIS, Pacific Connector should file with the secretary a description and location of any new electrical service needs on federal lands, including electrical service required for the cathodic protection system." The effective end of the comment period, where the public would have the opportunity to study and comment on this plan, has passed. The FERC should re-open public comments until this requirement is fulfilled.

Communication towers: Pacific Connector plans to construct three new communication towers (DEIS 4-525). This will increase bird-kill and interrupt bird migration. The DEIS failed to fully consider these impacts. These towers will be especially impactful since they will be built in the Pacific Flyway, a major bird migration route. There could be some mitigations detailed in the "Migratory Bird Conservation Plan", but the public is not being allowed to review that document in time for public comments (DEIS 4-526).

CO17-42

Economic impacts of sanctions: The FEIC failed to consider that the economic viability of this project is dependent on good relations with Asia for decades to come. If those relations were to change, and if there were economic sanctions required, against China for instance, the Jordan Cove project would suffer. Projects like Jordan Cove will pressure governments to not apply sanctions when they could be needed for national interests. The DEIS failed to consider the very real possibility of future economic sanctions and how that would impact the economic viability of the Jordan Cove Project.

CO17-43

Rural Safety Standards: The DEIS should have considered the impacts of lower safety standards for pipelines in rural areas. Most of the pipeline is a "Class 1", putting rural Oregonians in greater danger than people in urban areas. Even if it is the U.S. Department of Transportation (DOT) that sets these standards, it is FERC's duty under NEPA to consider the impacts. The DEIS says (4-986): "If the Commission becomes aware of an

CO17-44

⁴⁵ Environment Concerns in Right-of-Way Management. Goodrich-Mahoney et al. 9-2011. https://books.google.com/books?id=9J0vvy6eXAC&dq=crop+yield+over+gas+pipelines&source=gbs_navlinks_s

CO17 Continued, page 15 of 16

CO17-40 The DEIS does discuss how the pipeline and wildfire would interact. See page 4-991 of the DEIS.

CO17-41 There are over 300,000 miles of high-pressure gas pipelines in the country. We are not aware of any issues associated with below ground rectifier/anode beds that input a low voltage electrical charge into the pipeline.

CO17-42 Information has been added to the FEIS.

CO17-43 The DEIS analyzed the environmental effects of the proposed project. It does not consider the need for the project or how the economic viability of the project might be affected by economic trends or political decisions in Asia. The Commission will consider the FEIS and other analyses in making its decision.

CO17-44 The DOT is responsible for safety standards for pipelines, not FERC.

20150213-5040 FERC PDF (Unofficial) 2/13/2015 12:58:32 AM

CO17 Continued, page 16 of 16

existing or potential safety problem, there is a provision in the MOU to promptly alert the DOT." The FERC failed (so far) to do this, especially in landslide prone areas like the Tyee Core Area. Impacts of thinner pipes in landslide prone areas, and increased distance to block valves in remote, rural areas, should have been considered in the DEIS.

CO17-44
continued

Rural emergency services in Class 1 areas will receive no extra annual funding to address increased safety issues, even though Veresen will be saving millions of dollars by using the lower safety standards.

Commenting: West coast population treated differently

Because FERC is on the East coast, people in the western United States have a disadvantage in commenting on these projects. A letter from the JCEP project area could take over a week to reach FERC offices in Washington DC, whereas comments from a project on the East Coast could reach FERC offices overnight.

CO17-45

To be fair, FERC should consider the postmark date a letter was sent, not the arrival date. Likewise, comments from people submitting electronic comments on February 13, before 5 p.m. west coast time should be considered. We should not suffer reduced commenting times because of the different time zones.

11. Supporting Documentation

These comments are uploaded along with the following documents referenced above and not uploaded to FERC elsewhere:

- * BLM USFS FOIA response;
- * Invasive Parasite in Mud Shrimp;
- * IPCC 11-1-14 Report; Jordan Cove Quake,
- * Tsunami Hazards Remain;
- * New Carissa Review Committee Report and Recommendations to the Governor;
- * Summary of LNG Export Applications.

This concludes comments from Cascadia Wildlands. Choose the no-action alternative until the problems identified above have been resolved. This project provides no benefits to Oregonians so it should not be granted a Certificate allowing eminent domain.

CO17-46

Francis Eatherington
Cascadia Wildlands
P.O. Box 10455
Eugene Oregon, 97440

541-643-1309 francis@cascwild.org

CO17-45 Comments on the Project can be filed electronically, thereby eliminating the lag created by traditional mail services.

CO17-46 This comment letter contained multiple attachments that were not direct comments on the DEIS or Project. These attachments have not been included in this FEIS appendix, but can be found on the eLibrary filed under Accession number 20150212-5199.

20150213-5041 FERC PDF (Unofficial) 2/13/2015 12:30:31 AM



Oregon Women's Land Trust
501(c)(3) Non Profit Corporation Founded 1979
P.O. Box 1692, Roseburg, Oregon 97470
Phone: (541) 643-0615
OWLT@live.com

CO18

February 12, 2015

Kimberly Bose,

Please consider these comments from Oregon Women's Land Trust on the Draft Environmental Impact Study for the Pacific Connector Pipeline and Jordan Cove Liquefaction terminal, Docket Numbers CP13-492 and CP13-483. We are a non-profit 501(c)(3) organization dedicated to providing access to land and land skills for women while protecting and restoring the natural environment of the land in our care for the sake of its ecological values. We have hundreds of members and supporters spread across Oregon, the US and the world. We are an impacted landowner on the Pacific Connector Gas Pipeline's (PCGP) proposed route beginning near MP 85.7. According to PCGP, 7.8 acres of our property would be impacted, including clearcutting in our oldest forests. These forests provide nesting, roosting and foraging (NRF) habitat for the Known Owl Activity Center (KOAC P2294) near MP 86. We have cared for and kept the land free of chemical, mechanical and other disturbances for over 37 years.

1. Alternatives through OWLT

The DEIS (3-42) considers two alternatives across our property, the 2007 Route and the Proposed Route. Our scoping comments stated:

"Both routes are objectionable to us for reasons stated below. However, the northern route through our largest trees and the adjacent BLM land with the Known Owl Activity Center (KOAC) is particularly objectionable."¹

The DEIS failed to consider our comments. The Comparison of Alternatives, Table 3.4.2.7-1 fails to even mention that the KOAC is impacted by the preferred alternative. Without this information, an informed decision cannot be made about which alternative to choose at MP 85-86 and the fate of KOAC P2294.

Our scoping comments said:

"The DEIS must consider mitigations for us and for the spotted owl if the proposal is to clearcut the NRF habitat we protect on our property."

FERC did not acknowledge those comments in the DEIS. In the summer of 2013, PCGP made an offer to OWLT with what they claimed to be a fair real-estate market value. However, they failed to include any mitigation for destroying NRF habitat on our property. Since our non-profit status and our mission commits us to protection of our trees, we lose far more than the real estate market value of our property. The BLM is being offered mitigation for loss of wildlife habitat in the KOAC. The loss of the same type of habitat protected on our land should also be mitigated.

CO18-1

CO18-2

CO18

Oregon Women's Land Trust, Jenny Council

CO18-1 Comment noted.

CO18-2 FERC does not respond to individual comments in the EIS, it does consider them in the analysis. The DEIS includes mitigation for the loss of habitat on federal lands and the FWS will require mitigation for losses on private lands. This does not mean effects on individual private parcels would be mitigated by providing compensation to that landowner. Compensation to individual landowners is based on negotiations between the applicant and the landowner, or the court if an agreement can't be reached.

¹ OWLT scoping comments to FERC dated 10-12-2012.

20150213-5041 FERC PDF (Unofficial) 2/13/2015 12:30:31 AM

CO18 Continued, page 2 of 6

Since both alternatives are objectionable, FERC should have developed a third alternative south of the 2007 Route that avoids OWLT property completely, allowing us to continue fulfilling our mission as a 501(c)(3) land conserving organization. Such an alternative would fully protect KOAC P2294, and would also fully protect the important forests and the wetland that the 2007 Route impacts.

CO18-3

The Proposed Alternative requires road access from South Myrtle Road. The DEIS claims there is an "existing" road through our neighbor's property that will be used to access the proposed right-of-way on our property at MP 85.5. Our scoping comments informed FERC there is no existing road at this location. Instead, there is an illegal ATV trail that goes through the Silver Butte land and onto our land. No road has ever been engineered in the location that FERC claims there is an existing road. FERC failed to acknowledge our scoping comments. This error must be corrected if a Final Environmental Impact Statement is issued.

CO18-4

The label on this road must be changed from Existing to New. Since large, destructive road-building equipment will be needed to install an engineered road, surveys for rare plants, such as Kincaid's lupine, are needed. By mislabeling this as an existing road, PCGP is able to avoid all the important plant and wildlife surveys. FERC should not allow this mistake to go forward.

2. Impact on The Mission and Members of OWLT

The OWLT mission statement states: "Oregon Women's Land Trust is committed to ecologically sound preservation of land, and provides access to land and land wisdom for women". Our Articles of Incorporation commit us to "preserve land and protect it from speculation and over-development, and to foster the recognition of land as a sacred heritage."

The Draft Environmental Impact Statement (DEIS) failed to include an analysis of our ability to continue with our mandate to preserve the land.

Our scoping comments were not addressed in the DEIS:

We are a 501(c)3 nonprofit corporation. This land was purchased in order to serve our stated purposes in perpetuity. It is for this mission that the land has been protected over more than three decades. As members of the board it is our responsibility to uphold the purpose of the Trust. We are devastated to be faced with the possible terrible consequences of this pipeline on all we have worked towards.

CO18-5

The pipeline right-of-way directly conflicts with this purpose, as it will cause the ecosystems we protect to be significantly harmed. Our land would be used to facilitate profiteering from fossil fuels which exacerbate detrimental climate change, and which increase methane contamination of the atmosphere, along with all the associated environmental and social problems of fracking. Such actions are in direct conflict with the stated purpose of Oregon Women's Land Trust.

Our scoping comments stated:

We are committed "to promote, explore, develop and maintain the spiritual, physical and cultural well-being of women by providing women access to land and encouraging self-sufficiency and means to attain it". In doing this, we assure privacy to those who spend time on the land, and attend our activities and functions. OWLT provides a place of safety and

Oregon Women's Land Trust comments on the LNG DEIS

2

CO18-3

Comment noted.

CO18-4

Pacific Connector no longer plans to use this unknown road because it is not functional without a bridge crossing of South Myrtle Creek. The road has been removed from Project maps and tables.

CO18-5

Section 3.4.2.7 of the DEIS assesses two alternatives across the Oregon Women's Land Trust property, and acknowledges your scoping comments that both routes are objectionable. The proposed route avoids a guest house on the property and avoids crossing any waterbodies, seeking to minimize impacts on the Trust property. Your concern regarding the Trust's mission to protect the land in perpetuity has been added to the FEIS discussion of alternatives.

20150213-5041 FERC PDF (Unofficial) 2/13/2015 12:30:31 AM

sanctuary; a place of quiet refuge, a retreat, which offers hands-on experience with land skills and forest wisdom in a natural woodland setting.

Many of our events and trainings are conducted outdoors. We require the same privacy in our woods and meadows as we require indoors. In a private rural setting, having people wander through your land is like having people wander through your living room, or peer into your windows.

With Pacific Connector staff freely operating up and down the pipeline route for monitoring, inspection and brush clearing, we will lose the personal privacy and sense of security upon which we base our programs, if we lose our right to determine who comes onto our land and when.

FERC failed to address these comments in the DEIS.

An additional invasion of our peace and privacy will occur when Pacific Connector flies over the pipeline route regularly, able to observe at will, and without limit, our private retreats, programs and meetings. This is a major impact on the human environment that FERC should have addressed in the DEIS.

We do not permit use of herbicides or pesticides on our land, which Pacific Connector will use on the right-of-way. Disturbed land on the right-of-way will grow back with thick brush, including flammable noxious weeds. The DEIS failed to discuss how this brush and the fire hazard will be controlled without pesticides or frequent work-crews disrupting our lives. The long-term impacts of these dangers were not evaluated in the DEIS.

CO18-6

We use only organic farming methods in our garden, orchard and meadows. The DEIS failed to be clear about how construction of the pipeline, including use of heavy equipment, would impact or contaminate our air, soil, and water supply. The preferred alternative puts the pipeline on at the top of the watershed feeding our water supply.

CO18-7

The DEIS failed to address our concern that a pipeline right-of-way will encourage illegal use by ATV riders, who already trespass on surrounding lands. With that trespass comes danger from criminals and poachers.

CO18-8

The DEIS failed to address our concern about how we and other landowners can be assured that workers on the pipeline will be screened for any history of violence, including restraining orders, property damage, sexual or domestic violence, theft, etc., so that such individuals do not threaten our peace or disrupt our activities.

CO18-9

3. Fair compensation is not possible.

The DEIS failed to consider whether fair compensation is even possible when granting the power of eminent domain to a multi-national corporation worth billions of dollars.

CO18-10

In 2013 Pacific Connector told us they wanted to use 7.8 acres of the most sacred place on our land. They offered us a one-time payment of only \$2,292.48. Since they expect to get eminent

Oregon Women's Land Trust comments on the LNG DEIS

3

CO18 Continued, page 3 of 6

CO18-6 As stated in the DEIS, any use of herbicide would be at the landowners direction.

CO18-7 As stated in Section 4.4 of the EIS, Pacific Connector's SPCCP addresses the preventive and mitigation measures that would be implemented to avoid or minimize the potential effects of hazardous material spills during construction.

CO18-8 Unauthorized use of the right-of-way is addresses in section 4.8.1.2. Section 4.10.2.5 of the DEIS discusses the concerns that unauthorized OHV use could adversely affect resources. Locations of particular concern are listed on page 4-850. The Recreation Management Plan describes measures to control unauthorized use. Sediment arising from unauthorized use that occurs despite these control measures is unlikely to have a significant effect on fish and would be more than offset by mitigation to reduce sediment from roads (see table 2.5.2.1).

CO18-9 It would be the applicant's and the construction contractor's responsibility to hire, set standards, and supervise construction workers.

CO18-10 The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947. Negotiations regarding compensation between the landowner and applicant are outside the jurisdiction of FERC. Disagreements between the value of the compensation under eminent domain would settled by the courts if agreement could not be made.

20150213-5041 FERC PDF (Unofficial) 2/13/2015 12:30:31 AM

CO18 Continued, page 4 of 6

domain, they don't have to make us a truly fair offer to use our property for their profits of billions of dollars through the life of this project.

CO18-10
continued

We would have to live with an ugly scar that destroys protected forest habitat and suffer invasion of privacy for pipeline inspections and maintenance, forever, in addition to other impacts described above – with only a single one-time small payment, equivalent to only about 2 weeks of the average US salary. Because of the power of eminent domain, it is unlikely we would be able to negotiate for anything close to what might be considered a fair price.

At a public meeting Pacific Connector claimed that the initial payment they paid could be invested, and the interest earned would be “like royalties”. Since the landowners do not have the billions of dollars the corporation has at hand, there is no fair playing field for negotiation.

Tree harvest: Even if we were to view our trees as a commodity, in violation of our forest protective purposes, we would be expected to oversee a contractor logging our land, clearcutting a 100 to 150-foot corridor. We would be forced to sell at whatever the current timber commodity prices are at that time. The 50' wide permanent easement in the center of the clearcut corridor could never be reforested and revert back to wildlife habitat.



We also have no way to be compensated for the loss of the astounding and magical ancient madrone trees that would be killed. Some of these trees are over 4' across, are many centuries old, and provide habitat for wildlife that depends on late-successional habitat. Because they have no “commercial” value, we would not be economically compensated, nor would the displaced wildlife be compensated for their destruction. These trees are priceless to us and to the forest community of which they are a part.

The DEIS failed to consider these impacts to the human environment from granting approval of this profoundly impactful pipeline, including the power of eminent domain for private profit, through our land and the properties of our neighbors.

4. Pipeline Safety in Class 1 Areas

The DEIS failed to consider the impacts of different safety standards required for the pipeline in rural areas, including our land. We, and many of our neighbors, are in a “Class 1” location because there are 10 or fewer buildings on a one-mile length of pipeline. Compared to those in urban areas, we would have fewer welds, thinner pipes, and a host of other reduced safety measures. FERC failed to consider the impact of the reduced safety standards on rural landowners.

CO18-11

The DEIS failed to consider an alternative that provides us, and our neighbors, with protections equal to Class 4 areas. In the economic analysis, the DEIS failed to disclose how much money

CO18-12

Oregon Women's Land Trust comments on the LNG DEIS

4

20150213-5041 FERC PDF (Unofficial) 2/13/2015 12:30:31 AM

Pacific Connector is saving with the weaker regulations. The DEIS should have weighed those money savings against the cost of an accident. The DEIS also failed to consider whether it is appropriate to design a project that affects public safety in such a way as to save the Pacific Connector money at the expense of our safety.

FERC failed to consider an alternative that would finance rural emergency response services for when the pipeline leaks methane, or blows up. For example, the Days Creek Fire Department will have over 19 miles of the pipeline route under their jurisdiction, yet their budget is being cut, not enhanced by the County. Currently their budget is only \$21,000 a year. Even though Pacific Connector Pipeline is paying the County a small amount of taxes, it's not enough to make up for the annual budget reductions. After the pipeline is installed, the Days Creek Fire Department will have even less money to deal with emergency services – in spite of the fact that PCGP will save millions of dollars using reduced safety standards in rural areas like Days Creek.

5. Maps of impacts to our property are inadequate

Several times we have asked Pacific Connector for maps of the route through our property and the adjoining BLM public land in the form of shapefiles. Pacific Connector denied our request. Local groups also made the request of BLM and they were also refused. The BLM claimed this is because “the data would be accessible to individuals or groups seeking to exploit vulnerabilities in the nation’s energy infrastructure, and Pacific Connector would suffer substantial commercial and competitive harm if its facilities were subject to attack.”²

CO18-13

The pipeline route will be visible on Google Earth if it is built. If BLM thinks the pipeline on and near our land could be “subject to attack”, then this danger should have been considered in the DEIS, especially considering the reduced safety standards applied to our rural area. Before this project is found to be in the public interest, we should be provided with all the maps we request that use current mapping standards, such as shapefiles. The Days Creek Fire Department should also be provided shapefiles of the pipeline through the 19 miles in their district.

CO18-14

6. Other Human & Economic Impacts

The FERC claims that related impacts, such as global warming and gas extraction methods like fracking, are “out of the scope” of this project (DEIS 1-20). Therefore, FERC will not consider these impacts in the DEIS. We disagree. Fracking and increased global warming through the use of fossil fuels is inextricably linked to the pipeline proposed through our land. FERC should have considered these connected actions.

CO18-15

Significant amounts of methane drilled by fracking escape into the atmosphere.³ The process of fracking, liquefying, shipping, and other methane leaks along the way, makes fracked LNG contribute significantly to climate change, especially since methane is 86 times more potent as a greenhouse gas than carbon dioxide⁴ when it escapes unburned into the atmosphere.

CO18-16

² Letter dated 8-12-13 from the BLM Department of the Interior to the Rogue Riverkeeper.

³ <http://www.nature.com/news/methane-leaks-erode-green-credentials-of-natural-gas-1.12123>

⁴ <http://www.epa.gov/outreach/qanda.html> “86 times more potent” is based on a 20-year period.

CO18 Continued, page 5 of 6

CO18-13 This information is propriety, FERC does not require the applicant to release propriety information to the public. The statement quotes the BLM's opinion, not FERC's.

CO18-14 Comment noted.

CO18-15 Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.

CO18-16 Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.

20150213-5041 FERC PDF (Unofficial) 2/13/2015 12:30:31 AM

CO18 **Continued, page 6 of 6**

The Oregon DEQ is permitting the Jordan Cove LNG Terminal to emit 2,166,000 tons of CO₂e per year. After Boardman Coal closes in 2020, the LNG terminal will become Oregon's highest greenhouse gas contributor. That doesn't even count the emissions caused by fracking, shipping and burning the natural gas.

CO18-17

As a nonprofit organization dedicated to preserving the natural environment, Oregon Women's Land Trust cannot allow these destructive environmental impacts to happen through the use of our property.

This concludes our DEIS comments. Please consider our comments when making a final decision.

Sincerely,

Jenny Council
Director, Oregon Women's Land Trust

owltr@live.com

OWLT
P.O. Box 1692
Roseburg, OR 97470

CO18-17 See the response to IND1.

20150212-0045 FERC PDF (Unofficial) 02/12/2015

ORIGINAL

BAY CLINIC, LLP
PHYSICIANS AND SURGEONS
1750 THOMPSON ROAD
COOS BAY, OREGON 97420
541-269-0333
In State Toll Free
1-800-824-8896
FAX 541-269-7389

Feb. 9, 2015

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington DC 20426

Re: OEP/DG2E/Gas
Jordan Cove Energy Project, L.P.
Docket No. CP13-483-000

Honorable Members of the Commission:

CO19

Internal Medicine
GREG SCHANDELMEIER, M.D.
PETER LUND, M.D.
ANDREW R. MAGLONA, M.D.
WENDY HADGE, D.O.
KELLY SMITH, F.N.P.
MYRON LICHT, D.O., FACC
CHAS JACKSON, M.D.
LAURA KENT, APRN/WNP-BC
SATISH BANIKURU, M.D.

General Surgery
NRIAN V. PHAM, D.O.

Obstetrics & Gynecology
STEPHAN J. GROTH, M.D.
JULIE A. ABBOTT, C.N.M., R.N.

Pediatrics
JON YOST, M.D.
MARY L. MOORE, M.D.
BARBARA ZONE, M.D.
SARA BRAKERUSH, C.N.P.

Allergy
JOSEPH T. MORGAN, M.D.

Administrative
DANIEL E. WALSH

FILED
FEB 12 A 11:05
FEB 12 11:05 AM
FEB 12 11:05 AM
FEB 12 11:05 AM

These comments pertain to the DEIS for Jordan Cove, Section 4.12, Air Quality.

I am an Allergist practicing in Coos Bay. I have serious concerns about the effect the proposed LNG export terminal and the adjacent power generating plant will have on local air quality. I do not believe the DEIS adequately addresses this subject. Proposed total airborne emissions from both facilities are estimated to be 2,166,750.6 tons per year. Of this total 833.6 tons are criteria pollutants of oxides of nitrogen, carbon monoxide, volatile organic compounds (VOC), sulfur dioxide, and fine particulates in the 2.5 to 10 micron range. The remaining 2,165,917 will be greenhouse gases from the combustion of natural gas at the power plant. These figures were obtained from the Oregon Department of Environmental Quality, Table 2-1, March 2013, Jordan Cove Energy Project, L.P. But the DEIS on p. 4-884 lists the criteria pollutants as a total of 1177.52 tons per year. The two do not match. Which figure is correct? Is the estimated 2,165,917 tons per year greenhouse gases correct? Nor do these figures include emissions for the tankers and escort vessels, also expected to be a very significant factor.

The Coos Bay/North Bend area has extremely clean air. I have not seen any data in the DEIS realistically assessing the effect of pollutant discharges into the air on the health of the residents of the two cities and proximate area of the county. The Jordan Cove site is from one mile (Airport Heights) to three miles (downtown Coos Bay) and four miles (Eastside) directly upwind of the population center of the Bay Area much of the year. Prevailing winds will require many more miles to dissipate air pollution of this magnitude. Human inhalation is inevitable. The greenhouse gases represent the largest component. While it is easy to think of the combustion of methane as simply producing carbon dioxide (CO2) and water (H2O), natural gas is not that pure. Significant contaminants exist which

cont,d.

CO19 Bay Clinic, LLP, Joseph T. Morgan, M.D.

- CO19-1 Greenhouse gases are not criteria pollutants. Therefore it is consistent to identify 2.2 million tons per year of GHG and 1178 tons per year of criteria pollutants. Although emissions from marine vessels were not included in the totals for the facility, emissions were calculated and impacts were assessed, as identified in Section 4.12.1.1.
- CO19-2 Project generated GHG emissions were discussed in section 4.12.1.4 of the DEIS. See also the response to IND1-1.

20150212-0045 FERC PDF (Unofficial) 02/12/2015

Morgan Jordan Cove 2/9/15 p.2

qualify as Criteria Pollutants. It is well-established in the medical literature that greenhouse gases are a significant health hazard.

CO19-2
continued

That there will be effects on health is a given. The persons who stand to be the most affected are children, because of their higher respiratory rate and immature immune systems. Then the elderly. With middle age and beyond our bodies become progressively less resilient. Lung capacity and cardiac reserve decrease as part of the normal aging process. Persons with heart disease and chronic lung disease will be affected the earliest. And then those with allergies, especially when affecting the nose and sinuses and asthma. Air pollution is a documented cause of asthma, especially in children. Permissible exposure limits are usually established for young men in good health over relatively brief periods of exposure time and do not address individuals in the susceptible categories, let alone the effects on the general population over a long period of time.

The statements in the DEIS that emissions will meet all applicable criteria are not at all reassuring. Table 4.12.1.1-1, p. 4-876, compares the Bay Area with Portland, Eugene, and "Lane County." This is not a good comparison for evaluating how residents of the Bay Area will be affected by negative changes in air quality. I regularly see patients who cannot visit Eugene and especially Portland without becoming ill from levels of ambient air pollution. The fact that these cities meet NAAQ Standards, at least most of the time, does not help these persons because of their sensitivities and allergies. There are many who have moved to this area to escape urban air pollution. If our air quality is degraded, they will have to move, or they will experience increased illness. Retirement is a major industry for the Bay Area. Many retirees have come from major urban areas and have purposely chosen this area because of the clean air. If we lose this, many will move again. And as word gets out, many more will not move here in the first place. This would result in a significant negative impact on the local economy. University studies have shown that one retirement family has the economic impact on a community of 3.2 to 3.4 blue collar jobs (Prof. Mark Fagan, Jacksonville State University). The domino effect from losing good air quality would easily offset any gains in permanent employment at the LNG terminal and power plant.

CO19-3

Furthermore, NAAQS regulations state that "NAAQS shall not be considered in any manner to allow a significant deterioration of existing air quality in any portion of any state..." I submit that an LNG export terminal and power plant will most certainly result in significant deterioration of our air quality and that human illness, either as new illness or aggravation of existing illness, will occur.

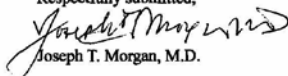
CO19-4

I also share concerns expressed by many other individuals about accident safety. While LNG accidents have been rare, they do occur. At the time the offshore LNG import terminal between Oxnard and Malibu, California, which would have been smaller than Jordan Cove, was proposed a worst case scenario blast zone radius of seven miles was discussed. I have seen no discussion of the extent and severity of potential accidents at Jordan Cove. There is nothing listed in the table of contents of the DEIS pertaining to accidents, safeguards and consequences. While I have read a great deal of the DEIS, I have not examined every page, and I did not see any mention of this topic. If I have missed material addressing safety and potential consequences of accidents in a meaningful way, I would appreciate having the citation pointed out. If it is not contained in the DEIS, it is a serious omission. Bay Area Hospital and 100% of the private medical offices are within three miles from Jordan Cove. If a seven mile radius is credible, Coos Bay and North Bend would be obliterated, along with the major medical facilities of Coos County.

CO19-5

CO19-6

Respectfully submitted,


Joseph T. Morgan, M.D.

CO19

Continued, page 2 of 2

CO19-3

Table 4.12.1.1-1 identifies Portland, Eugene, and Lane County as the nearest ambient monitoring sites; it is not making a comparison with monitors in the Bay Area. The ambient air monitoring standards shown are based on data taken at monitor sites that are not located near localized sources of air pollution and do not necessarily reflect exposures, which can be substantially higher. Note that FERC does not set air quality standards. The applicant would be required to meet standards that have been set.

CO19-4

Comment noted.

CO19-5

The air permitting process that this facility went through specifically addressed the issue of Prevention of Significant Deterioration of air quality; see "Operational Impacts" identified at the end of Section 4.12.1.1. FERC does not set air quality standards. The applicant would be required to meet standards that have been set.

CO19-6

LNG safety is discussed in section 4.13 of the EIS.

20150212-0059 FERC PDF (Unofficial) 02/12/2015

CO20

Save Our Rural Oregon, Paul Fouch, PE

BEFORE THE
FERC

ORIGINAL

FILED
SECRETARY OF THE
COMMISSION

IN THE MATTER OF THE APPLICATION FOR)
APPROVAL OF THE EIS FOR THE Jordan Cove)
Liquefaction and Pacific Connector Pipeline project)

SAVE OUR RURAL OREGON
PUBLIC COMMENT ON DEIS

2015 FEB 12 P 2:30

CP13-483

FEDERAL ENERGY
REGULATORY COMMISSION

ISSUE: Evaluation of the public benefits of the line (Balancing the public benefits vs cost of negative impacts.) and misc. addendum comments

REVIEW STANDARD: FERC DEIS review regulations

HEARING OFFICER: Ms. Kimberly D. Bose
Secretary, Federal Energy Regulatory Commission
888 First St. N Room 1A
Washington, D.C., 20426

PRESENTER: Paul Fouch, PE President of Save Our Rural Oregon
8017 Hwy 66
Klamath Falls, Or 97601
pmfouch@gmail.com 541-884-4324

AUTHORITY:

FERC call for public comment on Docket No. CP13-483-000 DEIS Jordan Cove Liquefaction and Pacific Connector Pipeline project due on or before Feb. 13

REVISION NUMBER AND DATE:

Revision number: 1
Date: 2-9-2015

PURPOSE/JUSTIFICATION

Provide addendum comments requiring the evaluation of the public benefits of the line (Balancing the public benefits vs cost of negative impacts.) and misc. addendum comments including a note on the Volcanic Risk of Mountain Lakes Wilderness Area

20150212-0059 FERC PDF (Unofficial) 02/12/2015

Required action prior to approval of DEIS

As I stated in Rev 0, I still contend that the draft ESI document should be denied approval by the FERC and a moratorium should be placed on the project until the applicant's EIS research document is more complete to meet all required laws to minimize the myriad of deficiencies in substantial evidence. SORO contends that the FERC must require that the applicant not only meet applicable federal EIS laws but also appropriate state laws. The applicant must provide sufficient substantial evidence which show that damage to effected resources are not excessive and that all the criteria for state laws are met. (one of SORO's members has made a request to Governor Kitzhaber to require that appropriate state laws be evaluated in the EIS)

CO20-1

Determining if the overall public benefits of the project outweigh the damage to the resources(environmental and Human) as outlined in OAR345-022-0030 and ORS 469.501

SORO contends that it is of utmost importance the FERC must utilize state ODOE laws to determine if the overall public benefits of the project outweigh the damage to the resources protected by state laws and standards. In particular ORS469.503(1) which provides overall review criteria and requires the weighing of overall public benefits and damage to the resources as outlined in OAR345-022-0030 and ORS 469.501. (See Att 1.0) The applicant has the burden to show that the overall public benefits outweigh the damage to the resources, and the burden increases proportionately with the degree of damage to the resources.

CO20-2

It is noted that the DEIS in document- Docket No. CP13-483-000 DEIS Jordan Cove Liquefaction and Pacific Connector Pipeline project outlines the primary economic benefits of the pipeline as :
--Temporary construction jobs to build the line
--The sustaining jobs in the Port of Coos Bay to liquefy and ship the natural gas
--The property tax revenues to the counties through which the line travels
However, they fail to mention that the great preponderance of the monetary benefits are only temporary.

They also fail to mention or evaluate the costs of the negative impacts of the project. SORO contends that the following negative impacts of the project and resulting costs must be evaluated :

CO20-3

--The lost income from the recreational uses of land through which the line passes especially from fishermen and hunters who will encounter diminished numbers of fish and wildlife due to damage to wetlands and streams and resulting poisoning of fish and wildlife in these areas. Also note that the pipeline will block access to the uses of these resources in many areas through which the line passes.

--The lost revenue for the farming industry by taking farmland out of production for the line

--The loss of manufacturing jobs in the US because of the resultant higher price of natural gas

--The increased cost of fertilizer to farmers because of the resultant higher price of natural gas

--The higher cost of natural heating gas to consumers because of the resultant higher price of natural gas

--Many other costs to the public

Note1: The article in Att 2.0 states that the price of natural gas will increase a minimum of 50% if most of it is shipped overseas.

CO20

Continued, page 2 of 4

CO20-1

The FERC Order, if granted, would have a condition stating that all federal, state, and local laws and regulations are meet.

CO20-2

The EIS does not address public need. The Commission will make that determination.

CO20-3

The buried pipeline would not block access to any recreation areas. The analysis does not indicate that fisherman or hunters would be affected except during construction, as is noted in the DEIS. Farmers would be compensated for any loss by the applicant.

20150212-0059 FERC PDF (Unofficial) 02/12/2015

Removal-Fill Law ORS 196.825(2) and OAR 141-085-0565 (this impact could result in significant cost to the public)

The DEIS does not provide the criteria applicable to a determination whether the state can issue a removal/fill permit and does not demonstrate the public need for removing and filling the many areas through which the pipeline travels that will need to be removed and filled.

CO20-4

Protecting public health and safety as a legal threshold requirement per ORS 469.310 (this impact will result in significant costs to the public)

The EIS must be evaluated to determine if the line design will appropriately protect public health and safety in close by residential areas through which the line passes. Large private heavy industrial facilities must have design features that properly protect public health and safety and comply with numerous environmental protection policies. ORS 469.310 provides

[i]n the interests of the public health and the welfare of the people of this state, it is the declared public policy of this state that the siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety and in compliance with the energy policy and air, water, solid waste, land use and other environmental protection policies of this state . . .

CO20-5

The design should have fail safe warning systems to protect nearby residents from line breakages and explosions, etc.

Special Note on Volcanic Risk of Mountain Lakes Wilderness Area

It is noted from pipeline maps in the DEIS that the pipeline runs close to several volcanic areas which have a high potential to again become active. SORO's geologist recently informed me that a small new bulge has been spotted via satellite surveillance on Aspen Butte in the Mountain Lakes Wilderness area. Att 3.0 describes the volcanic structure of the Mountain Lake Wilderness Area. It is noted that the pipeline runs within 1 to 2 miles of the Mountain Lakes Wilderness Area.

CO20-6

Note: SORO contends that we can't afford to take the risk of earthquake for projects like this LNG—why take such a risk when there is no public benefit? The following link evaluates the risk of the :Cascadia quake/tsunami:

CO20-7

https://www.oregonlegislature.gov/citizen_engagement/Reports/2013_Seismic%20Safety%20Policy%20Advisory_Oregon%20Resilience%20Plan.pdf

Other special notes: More ESI substantial evidence needed

—**The ESA**—The applicant should be required to meet all the requirements of the ESA all along the line and at the port of Coos Bay. A full implementation of the law should be required of them. For example the map in this link shows the pipeline will cross protected Spotted Owl habitat:
http://www.fws.gov/oregonfwo/species/data/northernspottedowl/Images/Maps/oregon_opt.pdf

CO20-8

Here is another link on Spotted Owl: <http://www.fws.gov/oregonfwo/species/data/northernspottedowl/>

Oregon Spotted Frog was put on the endangered list a few months ago. This link shows they are found in Klamath County: <http://www.fws.gov/oregonfwo/Species/Data/OregonSpottedFrog/>

Also, we have the endangered suckers in the Klamath River

CO20 Continued, page 3 of 4

- CO20-4 The applicant would not be allowed to begin construction until it gets all required permits. It would be up to the State to determine if a fill permit is needed and any requirements that must be met prior to obtaining the permit.
- CO20-5 The DOT establishes safety requirements for pipelines. See section 4.13.9.3 for a discussion of safety risks associated with pipelines. While there is always some risk associated with any development, a person is more than 20,000 times as likely to be killed in a motor vehicle accident than a pipeline accident and more than 1,500 times as likely to be killed in a house fire.
- CO20-6 Section 4.2.2.2 discussed discusses volcanic hazards. The USGS Web site listing hazardous volcanos does not include Aspen Butte. <http://volcanoes.usgs.gov/observatories/cvo/>.
- CO20-7 Earthquake risks are discussed in section 4.2.1.3 of the EIS and designs for earthquake ground motions are discussed in section 4.2.1.4 of the EIS.
- CO20-8 The Project must meet all laws, including ESA. NMFS and FWS will evaluate the project effects and identify additional mitigation as appropriate. By law, their Biological Opinion is due within approximately 6.5 months of the publication of the FEIS.

20150212-0059 FERC PDF (Unofficial) 02/12/2015

--The MBTA --The applicant should be required to meet all the requirements of the MBTA to minimize negative impacts on migratory birds especially in Klamath County.

CO20-9

More comprehensive Noise evaluation per OAR 340-035-0035 is needed

A more comprehensive noise evaluation is needed to meet the requirements of state noise control regulations under OAR 340-035-0035 to determine how much of the time compressor stations, pumping stations and hydrostatic discharge stations exceed 100 dbs. (in my neighborhood along the Hwy 66 there are both pumping and hydrostatic discharge stations. One of my SORO members said:

CO20-10

"The pipeline company may call it a pumping station in front of your house but it is probably actually a compressor station. These compressor stations are very noisy and can be heard for miles. When we lived up in Deschutes County I remember reading several articles in the Bend Bulletin about a compressor station the natural gas company installed in the La Pine area and local residents were outraged. It made such a loud whistle noise 24/7 they could not sleep at night. They should not be in a residential area. I have heard complaints about them installed in forested areas which displace wildlife due to the noise." A 41,000 horsepower compressor will be at Malin.

More full evaluation of clean air act and clean water act laws

SORO contends that a full evaluation of clean air act and clean water act laws are required all along the line because of possible leakage at weld joints every 20 feet. (see Att 4.0 for issues that should be addressed in the clean air act.)

CO20-11

Attachments

Att 1.0 Medford Mail Tribune editor's article on public need for the line
Att 2.0 Dow Chemical and Columbia River Keeper article
Att 3.0 Volcanic risk of Mountain Lakes Wilderness Area
Att 4.0 Oregonian article for issues that should be addressed in the clean air act.)

CO20-12

CO20-13

CO20

Continued, page 4 of 4

- CO20-9 The Project must meet all laws, including MBTA. The FWS will evaluate the project effects and identify additional mitigation as appropriate.
- CO20-10 Acoustic predictions for the above ground facilities, including the compressor station and metering stations, in section 4.12.2.4. The Project must meet state laws, if additional analysis is required as part of the state permitting process, the applicant will need to provide that analysis.
- CO20-11 Assessments of the impacts to air and water quality are included in the EIS (see Section 4.4 and 4.12). The FERC order, if granted, would require that the project comply with all requirements of the CWA and CAA. Furthermore, the Army CORE and EPA, who enforce these regulations, are cooperating agencies for this EIS.
- CO20-12 This comment letter contained attachments that did not directly comment on the DEIS. These attachments have been reviewed and any relevant information found was incorporated into the analysis as applicable; however, the attachments are not included in this Appendix to the FEIS. The entire comment letter, including these attachments, is available on the eLibrary filed under accession number 20150212-0059.
- CO20-13 This comment letter contained multiple attachments that were not direct comments on the DEIS or Project. These attachments have not been included in this FEIS appendix, but can be found on the eLibrary filed under Accession number 20150212-5199.

20150213-5079 FERC PDF (Unofficial) 2/13/2015 10:02:49 AM



COAST RANGE FOREST WATCH

CO21

CO21

Coast Range Forest Watch

CO21-1

Comment noted.

CO21-2

Text revised for clarity.

Members of Coast Range Forest Watch are submitting this comment on the Jordan Cove Draft Environmental Impact Statement to voice our opposition to the Jordan Cove Liquefied Natural Gas Terminal and associated Pacific Connector Gas Pipeline. We are a small non-profit that monitors nesting habitat for the threatened marbled murrelet and works to protect mature, never-before-logged forests in Oregon's coast range. As wildlife surveyors, environmental activists, and residents of Coos Bay, we have great concern for the project specific amendments that will allow the Pacific Connector Gas Pipeline to displace old growth and threaten marbled murrelet and spotted owl habitat on federal forest lands. Our comment will also discuss several fish species impacted by the project.

Impact on Forests

Pipeline Impact On Mature and Old-Growth Forests

According to the DEIS (ES-4, ES-9), the Pacific Connector Gas Pipeline (PCGP) will cross 74.5 miles of federal forest lands, including 42.4 miles of late successional old growth. In other words, the *majority* of public lands that the PCGP will cross contain forest that has been classified as late successional old growth.

According to a 2006 study published in *Conservation Biology*, "Approximately 28% of the Pacific Northwest that was historically old-growth conifer remains in old-conifer forest cover today."¹ Taking such research into consideration, it is both surprising and unfortunate that the PCGP would impact such a large area of old growth on public lands. As an organization that keeps a careful eye on public lands in Oregon's coast range, Coast Range Forest Watch recognizes that this project is completely out of step with the general trend of public forest management in our region. In terms of the amount of acreage of mature and old-growth forest that will be removed for the pipeline, some of it permanently, there is no comparable forestry project on federal lands in the Coos Bay area.

CO21-1

In fact, under normal circumstances the actions that will be taken by Veresen to build the PCGP would not be permissible on federal forest land in Oregon. According to the DEIS (ES-15) "The BLM and Forest Service would amend their respective LMPs in the appropriate districts and National Forests to allow for the pipeline." Amendments for the pipeline will be made by all federal forest managers on the pipeline route, including Coos, Roseburg, Medford, and Lakeview BLM districts, and Umpqua, Rogue River, and Winema National Forests. The DEIS (4-36) establishes that BLM Districts and National Forests do have the option to either cancel or modify projects that are not in line with their management plans. It is unclear why the fleeting economic benefits of the PCGP in our region would warrant such unusual and widespread exceptions to federal forest policy in the Northwest.

CO21-2

Issues with Proposed Mitigation

¹ Strittholt, James. "Status of Mature and Old-Growth Forests in the Pacific Northwest." *Conservation Biology* 20.2 (2006): 363-74.

20150213-5079 FERC PDF (Unofficial) 2/13/2015 10:02:49 AM

CO21

Continued, page 2 of 6

As the DEIS acknowledges in 2.1.4: under NEPA the thinning and fuels reductions projects proposed for mitigation would require a separate environmental review. The DEIS attempts to address prior concerns about the nature of the proposed mitigation projects. Regardless, the only conclusion that can be drawn from the content of DEIS 2.1.4 is that the mitigation projects will be of some financial benefit to the BLM, Forest Service and hired contractors through incidental commercial thinning that would occur for the stated purpose of fuel reduction and fire prevention.

CO21-3

Without a NEPA review of the proposed mitigation, any claimed benefit or potential harm that would occur in the mitigation project areas remains unknown. Presumably, various federal forest managers are allowing project specific amendments for the PCP Pipeline on the premise that mitigation will adequately offset the harm that will occur in old growth forests and other sensitive habitat on the pipeline route. Without NEPA review about the potential impact of the proposed mitigation projects, FERC cannot reasonably draw conclusions about the overall impact of the Pacific Connector Pipeline.

Marbled Murrelet and Northern Spotted Owl

The proposed Pacific Connector Gas Pipeline associated with the Jordan Cove Liquefied Natural Gas facility is proposed to affect old growth forest that is occupied by marbled murrelets and northern spotted owls. Both species are listed under the federal Endangered Species Act (ESA) and Oregon State Endangered Species List. Destruction of habitat occupied by the northern spotted owl or marbled murrelet is prohibited as "take" under the federal ESA. Additionally, destruction of occupied marbled murrelet and known spotted owl nesting core areas is prohibited under BLM and Forest Service management plans under the direction of the Northwest Forest Plan (NWFP).

CO21-4

In order to surmount these obstacles, Veresen has proposed amending the plans to eliminate the requirement to protect marbled murrelet and northern spotted owl habitat for the PCGP project. The Draft Environmental Impact Statement (DEIS) states: "These plans, as amended, are consistent with all management directions in the NWFP regarding the proposed PCGP project."

The proposal for Veresen to exempt themselves from following the federal and state ESA, Forest Service and BLM management directives and the science behind the Northwest Forest Plan in the interest of transporting LNG for export is inappropriate. Veresen then claims that the amended plans would still comply with the directives the amendments exempted the project from. Either the project follows the directives, or needs to have exemptions from them. The Pacific Connector Pipeline cannot both be exempted from the directives of the Northwest Forest Plan and follow them at the same time.

The proposed pipeline would affect marbled murrelets in the following ways:

Pacific Connector identified 173 occupied and presumed occupied MAMU stands within 0.25 mile of the proposed action, or within 0.5 mile of federally-designated critical habitat that would be affected by the proposed action. Construction of the Project would remove a total of about 926 acres of MAMU habitat (suitable, recruitment, capable), including about 58 acres of suitable habitat removed from 25 stands.

Additionally:

79 MAMU stands (20 occupied and 59 presumed occupied) are within 0.25 mile of the pipeline that could be constructed during the breeding season. 161 MAMU stands (45 occupied and 115 presumed occupied) are within 0.25 mile of access roads that could be used

CO21-3

There is no conclusion in section 2.1.4 of the DEIS that the mitigation actions would be a financial benefit to the BLM or Forest Service. The proposed mitigation actions would involve significant financial costs that would be borne by the applicant. The mitigation actions are evaluated programmatically in the DEIS including project locations and size (see section 2.1.4 and Appendix F of the DEIS). Also the types of mitigation actions being proposed are consistent with recommendations in the watershed analysis and LSR assessments and have been shown to be effective. Further site specific environmental analysis that may be necessary for these actions would further refine the details of the actions and comply with any needed surveys and/or consultations.

CO21-4

The purpose and scope of the proposed LMP amendments are discussed in section 1.4.2 and the amendments are described and evaluated in sections 2.1.3 and 4.1.3 of the DEIS. The amendments have been proposed by the BLM and Forest Service and not the applicant. Without the proposed amendments the PCGP project would not be consistent with some of the management direction in the LMPs. There is no proposal by the BLM, the Forest Service, or FERC to exempt the PCGP project from federal or state ESAs.

20150213-5079 FERC PDF (Unofficial) 2/13/2015 10:02:49 AM

during pipeline construction in the breeding season; blasting for the pipeline trench may occur within 0.25 mile of MAMU stands between April 1 and September 30.

The proposed pipeline would affect northern spotted owls in the following ways:

(1) removal of a known nest tree during the entire breeding season (March 1 through September 30), and (2) human and noise disturbance due to right-of-way clearing and construction during the breeding period, including noise due to blasting and helicopter support during construction, and smoke from prescribed burnings. Potential indirect effects include the following: (1) removal or modification of suitable NRF habitat, dispersal habitat, and habitat that would be capable, over the life of Project, to achieve dispersal or NRF habitat characteristics but for the Project's impacts within LSR, Riparian Reserves, or NSO home ranges; (2) habitat fragmentation; and (3) other indirect effects that occur due to project-related increases in edge habitat and loss of interior forest habitat, including increased predation, increased competition, and effects on prey utilized by NSOs."

As for the scale of the numbers of spotted owls affected, "the pipeline route would cross through 90 NSO home ranges, and 8 nest patches."

Given the failure of marbled murrelet populations to recover after being on the federal and state ESA for over two decades and the catastrophic population crash of northern spotted owls in southwestern Oregon, the removal of any nesting habitat at this juncture is biologically indefensible. Given these dire circumstances, Veresen has proposed laughably inadequate mitigation measures to make up for the destruction of endangered species habitat.

The DEIS groups "Late Successional" (70-275 year old) and "Old-Growth" (275+ year old) forest stands into one group called "Late Successional Old Growth" ("LSOG"). This grouping of forest types for the purpose of mitigation is problematic at best. While we can be reasonably sure that most of the marbled murrelet and northern spotted owl habitat which will be modified or destroyed by this project is on the "OG" side of the "LSOG" spectrum, as those species are old-growth dependent, the quality of mitigation habitat switched from matrix to LSR is not adequately assured. Additional proposed mitigation measures such as fuel treatments and stand density treatments are not replacements for old-growth forest occupied by endangered species.

For example, if amendments allow for the removal of large conifers with branches >4" in occupied marbled murrelet stands, mitigation would not adequately compensate for the loss of habitat unless it somehow immediately created potential nest sites with >4" nesting platforms for the marbled murrelet in the vicinity of the tree that is removed. Volunteers with Coast Range Forest Watch have visited several of the occupied murrelet sites in the Coos Bay BLM district, and habitat of this quality will be displaced by the pipeline easement.

The final EIS should include analysis on how the population reduction of northern spotted owls and marbled murrelets as a result of the proposed project would contribute further to already extant population declines. In order to accurately assess the environmental damage associated with the proposed pipeline, the final EIS should include an analysis of cumulative impacts of continued removal of LSOG and endangered species habitat in Southwestern Oregon. The final EIS should also include analysis on how the increased predation vectors created by punching a clear cut through occupied marbled murrelet habitats would degrade the quality of remaining habitat.

Impact on Fish and Other Aquatic Species

CO21

Continued, page 3 of 6

CO21-5

The DEIS discloses that the Project is likely to adversely affect marbled murrelet and northern spotted owls in section 4.7.1.2. Mitigation is proposed by the Forest Service and BLM. The FWS will likely require additional compensatory mitigation in its Biological Opinion.

CO21-6

Increased predation is included as one reason for the project's 'likely to adversely affect' determination in section 4.7.1.2. Section 4.14.3.7 addresses cumulative effects on marbled murrelet and northern spotted owls. As stated in section section 5.1 7, FERC will recommend that the FWS develop a biological opinion indicating whether the project would likely jeopardize the continued existence of these species or adversely modify their designated critical habitat.

CO21-5

CO21-6

20150213-5079 FERC PDF (Unofficial) 2/13/2015 10:02:49 AM

Coastal Coho Salmon

The proposed project will affect two of the four federally protected Evolutionary Significant Units (ESUs) of Coastal Coho Salmon; the Oregon Coast ESU and the Southern Oregon and Northern California Coasts ESU. These populations are protected under the federal Endangered Species Act.

The DEIS fails to adequately consider the impacts of a rise in water temperature on the health of salmon. The DEIS states in Section 4.14.3.7 that "removal of riparian shade by pipeline clearing would raise most stream temperatures less than a degree at the crossings", and that "those impacts would be temporary and localized, and would not cause significant population-level effects on listed salmon species..."

A salmon's body temperature and metabolism are determined by the ambient temperature of the water they swim in. At every stage of life, salmon depend on the water temperature around them to survive. In a 1986 review of many literature sources, M.C. Bell found that the preferred water temperature for Coho ranges from 11.7-14.5 degrees Celsius, and preferred spawning temperature ranges from just 4.5-9.4 degrees Celsius.²

Removing riparian shade means leaving stream banks with less vegetation to retain soils. When this sediment enters waterways, water flow and thus water temperature are affected. It is difficult to apply the terms "temporary" and "localized" to moving bodies of water surrounded by permeable soils. Temperature increases, sediment slides, and toxic spills have far-reaching effects on riparian habitats.

There are many other factors influencing stream temperatures, including climate change. Any further increase in water temperature decreases Coho survival rates. The final Environmental Impact Statement should consider these cumulative impacts on the health of salmon.

The DEIS fails to adequately consider impacts of a rise in temperature on various waterways exhibiting various characteristics. "A single stream temperature standard is difficult to apply across a broad region...because streams differ markedly in size, drainage area, elevation, geographical location, prevailing climatic conditions, aspect, riparian vegetation, etc. These factors act directly or indirectly to influence water temperature by affecting the degree of shading or the ambient climatic conditions (air temperature, humidity, and solar radiation)...Streams in diverse settings behave very differently, and temperature standards, whether narrative or numeric, should reflect those differences."³

Varying waterway characteristics including size, drainage area, elevation, geographical location, prevailing climatic conditions, aspect, and riparian vegetation should be considered in the final Environmental Impact Statement.

The DEIS fails to adequately consider existing challenges for Coho population along impacted waterways. The Pacific Connector Pipeline would cross the Klamath and Rogue rivers, and many other waterways that provide important habitat for Coastal Coho salmon. The existing challenges salmon face and existing human demands (dams, agriculture, etc.) on these waterways should be considered in the final EIS.

North American Green Sturgeon (Acipenser medirostris)

² Bell, M.C. *Fisheries Handbook of Engineering Requirements and Biological Criteria*. U.S. Army Corps of Engineers, 1986.

³ Lewis, T., D et al. "Executive Summary: Regional Assessment of Stream Temperatures Across Northern California and Their Relationship to Various Landscape-Level and Site-Specific Attributes" *Forest Science Project*, 2000.

CO21

Continued, page 4 of 6

CO21-7

Section 4.6.2.3 discusses effects on water temperature, it also includes the requirement that the applicant describe how each crossing would meet the ODFW fish passage standards.

CO21-8

Comment noted, see the response to the previous comment.

CO21-7

CO21-8

20150213-5079 FERC PDF (Unofficial) 2/13/2015 10:02:49 AM

Coos Bay provides critical habitat for the Green Sturgeon. Green Sturgeon feed on benthic layer species, and the DEIS fails to adequately consider dredging impacts on Green Sturgeon food sources.

CO21-9

According to the National Oceanic and Atmospheric Administration, "Dredging can have many detrimental impacts to aquatic ecosystems. Hydrodynamic regimes can be altered through a change in direction of water flow that can occur with dredging. Physical habitats, such as bathymetry and benthic habitat features, are modified and can lead to short or long-term impacts to ecosystems. Dredging can cause direct removal or burial of organisms and habitats, which can damage spawning and nursery habitats as well as other sensitive Essential Fish Habitat like eelgrass. Increased turbidity and sedimentation are common impacts associated with dredging. This can reduce light availability, which impacts photosynthesis necessary for phytoplankton, and other aquatic organisms. Tides and currents can expand turbidity and sedimentation impacts to ranges outside of the action area of dredging. Also, turbidity and sedimentation can re-circulate toxic contaminants from the disturbed sediments. Invasive species can be transported through dredges and equipment associated with dredging. Dredging also creates a disturbance area that can be susceptible to establishment by invasive species. Furthermore, disposal of dredged sediments can lead to areas of reduced dissolved oxygen through introduction of nutrients and organic matter, which can affect the health of aquatic habitats."⁴

The impacts of dredging on food sources of the Green Sturgeon, including local shrimp, mollusks, and amphipods, should be considered in the final Environmental Impact Statement.

Additionally, the Rogue and Klamath rivers are two of only three known breeding grounds for Green Sturgeon, and the final Environmental Impact Statement should consider any potential implications of an LNG spill or related pipeline accident on these rivers.

CO21-10

Lost River Sucker

In Section 4.14.3.7, the DEIS states that, "Pacific Connector believes that the amount of turbidity that may be generated by the crossing of waterbodies in the Klamath Basin using open cut methods during the winter would be low enough to not affect any Lost River sucker or shortnose sucker downstream of the crossing locations. There is no riparian vegetation along those stream banks that provide shade that would be removed by the Project, so the pipeline crossings should not raise water temperatures."

CO21-11

The DEIS fails to consider additional mechanisms by which water temperatures may rise. These additional mechanisms include sediment deposits during construction and maintenance, as well as landslides or flooding catalyzed by easement development or commercial logging practices. These factors should be considered in the final Environmental Impact Statement.

The health of fish and other aquatic species would be drastically affected by many facets of the Jordan Cove and Pacific Connector Pipeline Projects. We feel the DEIS does not adequately consider the cumulative impacts of private industrial logging, agriculture and other human activity along affected waterways. These impacts include overfishing, by-catch, agricultural runoff, irrigation, herbicide use, loss of riparian vegetation, and landslides. Aquatic species are already disproportionately challenged by human activity; these projects would put them at even greater risk.

CO21-12

Conclusion

⁴ "Habitat Threats: Navigational Dredging." : NOAA Fisheries West Coast Region. National Oceanic And Atmospheric Association, n.d. Web. 11 Feb. 2015.

CO21 Continued, page 5 of 6

CO21-9 Effects from dredging are discussed in section 4.6.2.1 and 4.6.2.2. The waterway has been dredged for decades, the section compares the likely project effects from dredging to current dredging effects.

CO21-10 LNG cannot spill into the Rogue or Klamath Rivers. The pipe would carry natural gas, not LNG. The likelihood of natural gas leaking into either river is extremely low. If a leak did occur in the pipe below the river bottom, the gas would escape into the air.

CO21-11 Comment noted. Following air temperature, solar radiation is the main source of water temperature elevation of in streams. All other potential factors resulting from the project would not have measureable effects on these waters.

CO21-12 Comment noted.

20150213-5079 FERC PDF (Unofficial) 2/13/2015 10:02:49 AM

In addition to our specific concerns, we stand in agreement with Oregonians who oppose this project in its entirety for a variety of other reasons, including (but not limited to) impact on global climate change, impact on health and quality of life where LNG is extracted, impact on other sensitive plant and animal species not discussed in this comment, economic impacts of dredging on local fisheries, the impact of eminent domain on Southern Oregon landowners, the impact on Native American traditional sites, the safety concerns of residents adjacent to the pipeline and export facility, and the overall lack of consent from communities impacted by the pipeline and export facility. When all of these factors are considered, no amount of mitigation or compensation could rectify the negative impacts of this project.

CO21-13

Coast Range Forest Watch
coastrangeforestwatch@gmail.com
(541) 808 0842
P.O. Box 611
Coos Bay, OR 97420

CO21

Continued, page 6 of 6

CO21-13

Impacts related to global climate change are addressed in Sections 4.12 and 4.14. Impacts on human health and safety are addressed in Section 4.13. Impacts to plant and animal communities are addressed in section 4.4 through 4.7. Eminent domain is addressed in section 4.9. Impact to cultural resources is addressed in section 4.11.

20150213-5099 FERC PDF (Unofficial) 2/13/2015 10:20:12 AM

CO22

**Replacement Supplemental Comments to the FERC DEIS On the Jordan Cove
LNG Export Terminal and Pacific Connector Natural Gas Pipeline.
Docket No. CP13-483-000 and CP13-492-000**

Alan Journet

Southern Oregon Climate Action Now; February 13th 2015

As noted in my previous submission: "Comments on the Federal Energy Regulatory Commission (FERC) Jordan Cove Export Terminal / Pacific Connector Pipeline Draft Environmental Impact Statement" in its DEIS FERC acknowledged that it should comply with NEPA in its "assessment of the potential direct, indirect, and cumulative impacts on the natural and human environment that would result from implementation of the proposed actions" (Chapter 1, p. 20). Further, FERC acknowledged that this involves "the impact on the environment which results from the incremental impact of the action [i.e. this proposal] when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions" (Chapter 4, p. 997). Despite this clear requirement and statement of authority and responsibility, the DEIS stated: "The 'life-cycle' cumulative environmental impacts, from exploration, production, and gathering of natural gas; transportation to Pacific Connector; and shipment of LNG overseas from the Jordan Cove terminal are far beyond the jurisdictional authority of the FERC or the activities directly related to the Project." This represents a confusing direct denial of the authority and responsibility the DEIS stated FERC has.

Meanwhile, in its 2014 "Draft Council on Environmental Quality Guidance to Federal Agencies on Greenhouse Gas Emissions"

(http://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance.pdf) the White House CEQ encourages agencies to undertake a full Greenhouse Gas assessment of projects.

Since FERC failed to undertake such an analysis, I attempted to do so. The following discussion reports this analysis.

Extraction – Pipeline Emissions:

This analysis starts from the reported pipeline capacity of 1.07 billion cubic ft of natural gas per day cited in the DEIS (Chapter 2, p. 106). This amounts to 390.55 billion cubic ft per year. Since 95 – 98% of pipeline gas is methane (<http://www.epa.gov/methane/gasstar/basic-information/index.html>), I round up to assume a 100% of the natural gas is methane. I use the IPCC (2013) estimate of the 20 year methane: carbon dioxide ratio of 85:1 based on the argument that using a longer time equivalent denies the urgency of our current situation.

Rather than assuming the capacity of the pipeline represents the natural gas flowing after emissions, I assume emissions are subtracted from this capacity. This results in a computation that is generous to the project in calculating emissions.

CO22-1

CO22

Southern Oregon Climate Action Now, Alan Journet

CO22-1

Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.

20150213-5099 FERC PDF (Unofficial) 2/13/2015 10:20:12 AM

CO22

Continued, page 2 of 3

I also start from the unreasonably generous assumption that only 1% of the gas escapes. This is unreasonable because recent studies reveal the life cycle fugitive emissions far exceed this percentage. Indeed, Howarth (2014) reported the range for shale fracked natural gas as 3.6% to 7.9% with a mean of 5.8%. The break-even point in emissions above which natural gas is worse than coal in its global warming effect is 2.8% indicating that all shale fracked natural gas is worse than coal in generating greenhouse gas emissions.

Probable project impacts using these values are reported below:

If only 1% emissions occur, this amounts to 3.9055 billion cubic ft per year of fugitive methane emissions.

It is necessary to convert this to pounds in order to develop carbon dioxide equivalent estimates. The conversion is 0.04246 lbs per cubic ft. The emissions, therefore, represent 165,827,530 lbs of natural gas, assumed for this analysis to be methane. Since the 20 year Global Warming Potential of methane is some 85 times that of carbon dioxide (IPCC 2013), this means that 1% fugitive emissions of natural gas would be equivalent to 14,095,340,050 lbs of carbon dioxide (= 6,393,546 metric tons).

If fugitive emissions for the project are equal to the low from shale-fracked natural gas (3.6%), this fugitive emission CO2 equivalent becomes 50,743,224,180 lbs (= 23,016,767 metric tons), while at the average (5.8%) from shale fracked natural gas, this becomes 81,752,972,290 lbs (= 37,082,569) metric tons.

Combustion Emissions:

But this is not the total of all emissions resulting from the project. To this, must be added emissions resulting from the combustion of the methane at its final destination.

Assuming 1% fugitive emissions escape, using the conversion of 119.9 lbs CO2e per 1,000 cu ft of methane (<http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11>), the exported natural gas will result in 46,358,675,550 lbs (= 21,027,967 metric tons) of emissions.

Meanwhile, at 3.6% fugitive emissions leakage, this becomes 45,141,174,980 lbs (= 20,475,717 metric tons) and at 5.8% emissions this becomes 44,110,982,190 lbs (= 20,008,429 metric tons).

I then assume that the Jordan Cove emissions result from burning some of the natural gas transported through the pipeline – and thus ignore it from these calculations (since to include it would be double charging), but add the emissions due to shipping the cargo to Asia (DEIS Chapter 4 p 894) of up to 11,430 million metric tons, at the average rate of emissions for shale fracked natural gas (5.8%) the total GHG emissions from the project will annually reach over 57 million metric tons of CO2e emissions. For comparison, this amounts to about 76% of Oregon's total GHG CO2e emissions for 2010.

If the Terminal Plant emissions are added, the total now becomes 79% of Oregon's 2010 GHG CO2e emissions.

An alternative comparison is that without terminal emissions these emissions would be equivalent to adding over 10 million gasoline-powered automobiles to our highways. Adding the terminal emissions, this becomes equivalent to adding nearly 11 million automobiles to our highways.

20150213-5099 FERC PDF (Unofficial) 2/13/2015 10:20:12 AM

CO22

Continued, page 3 of 3

CO22-2

Project generated GHG emissions were discussed in section 4.12.1.4 of the DEIS. See also the response to IND1-1.

Conclusion:

It is clear that shale-fracked natural gas never exhibits a greenhouse gas emissions benefit in comparison to coal; it is always worse. Fracked natural gas is profoundly not 'the clean fossil fuel.'

To argue that this project has no significant environmental impact denies the vast greenhouse gas contribution it would make to our already overburdened atmosphere. Using the EPA (2013) estimates of the social cost of carbon dioxide emissions (at \$116 per ton of carbon dioxide), this means the cost of this project would reach over six and a half billion dollars annually.

A copy of the spreadsheet used in these calculations is available upon request.

References:

EPA 2013 Interagency Working Group on the Social Cost of Carbon. Technical Support Document: - Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866 - <http://www.epa.gov/climatechange/EPAactivities/economics/scr.html>

FERC 2014 Jordan Cove Energy and Pacific Connector Gas Pipeline Project Draft Environmental Impact Statement. Federal Energy Regulatory Commission (FERC) Draft Environmental Impact Statement (DEIS) <https://www.ferc.gov/industries/gas/enviro/eis/2014/11-07-14-eis.asp>

Howarth, RW 2014, A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas. *Energy Science and Engineering* 2 (2): 47 – 60

IPCC 2013 Intergovernmental Panel on Climate Change, Working Group I The Physical Science Basis <http://www.climatechange2013.org/>.

CO22-2

20150213-5318 FERC PDF (Unofficial) 2/13/2015 4:44:09 PM

CO23

Federal Energy Regulatory Commission (FERC):

I am writing on behalf of the Kalmiopsis Audubon Society. Our group has more than 200 local members who are concerned about maintaining healthy habitat for birds, fish, wildlife, and people. Our members live here in Oregon, work here, pay taxes here, and for more than 30 years have dedicated efforts toward the long-term health of our local environment.

Kalmiopsis Audubon Society is extremely concerned about the impacts of the proposed Jordan Cove liquefied natural gas (LNG) export terminal and Pacific Connector gas pipeline. FERC's Draft Environmental Impact Statement fails to demonstrate that there is either need or public benefit from this project, for Oregon or for the U.S. Yet the potential for natural disaster is massive, and even in the best case scenario, huge sections of land and water bodies in the state will be permanently compromised or destroyed.

Oregon's economy, which depends heavily on tourism, fishing, timber harvesting, and agriculture, cannot afford the direct impacts on its natural areas from such a massive construction project. Fragile ecosystems, especially in old growth forests, estuaries, and coastal shores, would be damaged. Breeding sites of threatened species, including fish and birds, would be destroyed. Already-polluted streams would face additional stresses from the removal of vegetation along their banks, and rivers that now flow with the clean, cool water that salmon need would be warmed and flooded with sediment.

A 95-foot-wide clearcut would be needed for the Pacific Connector Pipeline along 75 miles of public forests. Some 42 miles are proposed in old-growth forests. FERC has failed to fully consider the impacts to endangered wildlife that depend on these forests, such as the spotted owl, marbled murrelet, and coho salmon. In addition, the pipeline would cross 400 streams and rivers, including such major recreational rivers as the Rogue, Klamath, Umpqua, Coquille, and Coos.

Salmon are vitally important in Oregon both economically and ecologically. More than 137 species of wildlife depend on salmon for at least a part of their diet – as do humans. And of course, the salmon and other fisheries provide jobs and sustain an entire way of life. Any threat to the health of fisheries, such as pollution of rivers, would deal a severe blow to most if not all Oregonians. Yet the economic impacts of Jordan Cove and the connector pipeline have been ignored or glossed over.

Siting the Jordan Cove LNG terminal on a sand spit in the Coos Bay estuary would involve removal of 38 acres of wetlands in dredging for an access channel and ship berth. This destruction of bottom habitat that sustains many marine species, from fish and shellfish to seals, porpoises, and whales, would not be a one-time occurrence. Maintenance dredging would be required over the life of the project, and the spoils would also contaminate ocean disposal sites. These activities have not been adequately addressed in the EIS.

Federal regulators from NOAA and the EPA announced in January that Oregon's plan for reducing coastal pollution due to runoff from logging, agriculture, stormwater, and other sources is insufficient. This also must be taken into account in the Jordan Cove EIS, because the project

CO23-1

CO23-2

CO23-3

CO23-4

CO23-5

CO23-6

CO23

Kalmiopsis Audubon Society, Penelope Suess

CO23-1

The CEQ regulations at Part 1502.13 only require that an EIS should "briefly specify the underlying purpose and need" for a Project; which we have done in section 1.3 of the DEIS. The Commissioners will have a broader discussion of purpose and need in their Project Order. See response to IND1-6.

CO23-2

Impacts to old growth forests, estuaries, and coastal shores are addressed in sections 4.4, 4.5, and 4.6. Impacts to breeding sites of threatened species, including fish and birds, is addressed in sections 4.6 and 4.7. Impacts to waterbodies as a result of cleared vegetation is addressed in sections 4.4, 4.6, and 4.7.

CO23-3

Impacts to old growth forests, estuaries, and coastal shores are addressed in sections 4.4, 4.5, and 4.6. Impacts to breeding sites of threatened species, including fish and birds, is addressed in sections 4.6 and 4.7. Impacts to waterbodies as a result of cleared vegetation is addressed in sections 4.4, 4.6, and 4.7.

CO23-4

The economic effects of the project are addresses in section 4.9. The effects to salmon are addresses in sections 4.6 and 4.7.

CO23-5

Note that the waterway has been dredged for decades. Section 4.6.2 addresses effects to habitat loss on aquatic resources, and section 4.4.3 addresses affects of loss of wetlands. Section 4.4.2.1 discusses disposal of dredged material, and it has been characterized as clean enough for open water disposal as per COE requirements.

CO23-6

This EIS addresses the direct and indirect effects on salmon in section 4.7. Cumulative effects are addresses in section 4.14.3.6.

20150213-5318 FERC PDF (Unofficial) 2/13/2015 4:44:09 PM

would certainly exacerbate this situation. Financial sanctions against the state plus loss of funding to deal with the myriad sources of such "nonpoint" pollution could be devastating.

CO23-6
continued

On top of these direct impacts would be piled the long-term climate effects from extracting and burning natural gas. The EIS fails to consider that Jordan Cove will enable increased fracking and dependence on fossil fuels, when we should be reducing such use by 80 percent before 2050, according to a November 2014 report from the Intergovernmental Panel on Climate Change.

CO23-7

Methane leaks are also a problem that has not been considered. Natural gas is made up of methane, a greenhouse gas that is 86 times more powerful than carbon dioxide in trapping heat in our atmosphere. Gas for this project would be obtained through the hydraulic fracturing process throughout the interior west of the U.S. and Canada. It has been established that leaks of methane during this fracking have been seriously undercounted by some federal agencies. The leak calculations must be redone, and the new, more reliable information must be included in FERC's analysis of this project.

If the Jordan Cove project is built, it will become the largest greenhouse gas source in the state of Oregon, second only to Portland General Electric's coal-fired power plant in Boardman, which was authorized before Clean Air Act amendments would have required stricter emission standards. The Boardman plant is set to close in 2020, giving the state a fighting chance to actually reduce its contribution to greenhouse gas pollution. We must not lose this opportunity by neglecting to even consider it.

CO23-8

The Jordan Cove EIS process is fatally flawed. Direct and indirect impacts have not been fully considered, and thus it is completely unknown whether sufficient mitigation may even possible.

CO23-9

Therefore, we ask that FERC deny this pipeline and LNG export facility.

Sincerely,

Penelope Suess, for the KAS Board

Ann Vileisis
President
Kalmiopsis Audubon Society
P.O. Box 1265
Port Orford, OR 97465
541-332-0261
www.kalmiopsisaudubon.org

CO23

Continued, page 2 of 2

CO23-7

Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.

CO23-8

Comment noted.

CO23-9

The EIS fully assesses the impacts that would result from both direct and indirect impacts.

20150213-5158 PERC PDF (Unofficial) 2/13/2015 1:16:56 PM

CO24 League of Women Voters



League Women Voter

CO24

Rogue Valley

The League of Women Voters Rogue Valley holds the following position with regard to forest lands:

The League supports management of Forest Lands for the benefit of appropriate inter-related uses:

- * timber production;
- * livestock grazing, with care to prevent over-grazing;
- * watershed protection and aquifer recharge maintenance;
- * wild life and fisheries habitat;
- * recreation; and
- * carefully controlled mining.

The League supports adequate buffering techniques to protect forest lands from incompatible land uses. Present policies of state and federal administration in terms of amount of land and types of land involved and O&C revenue distribution formula should be retained. The League supports adequate standards for logging roads, based on future use or abandonment.

The League Of Women Voters of Rogue Valley advocates against the Pacific Connector Pipe line, Certificate of Operation for a rite-of-way to pump natural gas across 210 miles of Southern Oregon. Since this Liquid Natural Gas Pipe line is not a benefited use of Forest Lands in Southern Oregon, we oppose the Pacific Connector Pipe Line.

Rogue Valley League of Women Voters
February 13 2015

LWVRV

1 Of 1

02/11/15

20150213-5158 PERC PDF (Unofficial) 2/13/2015 1:16:56 PM



League of Women Voters

Rogue Valley

The League of Women Voters Rogue Valley holds the following position with regard to forest lands:

The League supports management of Forest Lands for the benefit of appropriate inter-related uses:

- * timber production;
- * livestock grazing, with care to prevent over-grazing;
- * watershed protection and aquifer recharge maintenance;
- * wild life and fisheries habitat;
- * recreation; and
- * carefully controlled mining.

The League supports adequate buffering techniques to protect forest lands from incompatible land uses. Present policies of state and federal administration in terms of amount of land and types of land involved and O&C revenue distribution formula should be retained. The League supports adequate standards for logging roads, based on future use or abandonment.

The League of Women Voters Rogue Valley would like to draw your attention to an issue concerning land managed under the O&C Act. Pursuant to 43 USC Section 1181a, O&C land

shall be managed...for permanent forest production, and the timber thereon shall be sold, cut and removed in conformity with the principal [sic] of sustained yield for the purpose of providing a permanent source of timber supply, protecting watershed, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities..."

This direction has been reiterated in several court cases including Headwaters, Inc. v. BLM, Medford Dist., 914 F2d 1174, 1183-84 (9th Cir. 1990) (citations omitted, emphasis added.) that found,

"...The purposes of the O&C Act were twofold. First, the O&C Act was intended to provide the counties in which the O&C land was located with the stream of revenue which had been promised but not delivered by the Chamberlain-Ferris Revestment Act...Chamberlain-Ferris Act primarily because the lands in question were not managed as so to provide a significant revenue stream; the O&C Act sought to change this. ...Second, the O&C Act intended to halt previous practices of clear-cutting without reforestation, which was leading to a depletion of forest resources."

In addition, in O'Neal v. U.S., 814 F2d 1285, 1287 (9th Cir. 1987), the Ninth Circuit Court of Appeals held:

"...The provisions of 43 U.S.C. Section 1181a make it clear that the primary use of the revested lands is for timber production to be managed in conformity with the provision of sustained yield, " (Emphasis added)

CO24-1 | It would appear that the DEIS is in error in failing to distinguish between BLM lands in

LWVRV

1 Of 2

02/10/15

CO24

Continued, page 2 of 3

CO24-1

The issuance of right-of-way grants under the Mineral Leasing Act is also an authorized use of BLM-managed lands. The receipts from timber sold from O&C lands in this project would be distributed in the same way as receipts from any other sale of timber from O&C lands, per the receipts distribution according to the O&C Act and any other applicable laws and regulations (e.g. Secure Rural Schools Act).

20150213-5158 FERC PDF (Unofficial) 2/13/2015 1:16:56 PM



League of Women Voters

Rogue Valley

CO24-1
continued

general and the priority management mandate to provide a sustainable timber yield for O&C lands upheld by the court.

Under the O&C Act and reiterated in a number of court cases, O&C lands are to be used for very restricted and specific uses, primarily sustainable yield. The construction of the Pacific Connector Pipeline right of way takes forest producing acreage from O&C lands in Jackson County. The construction plan indicates clear cutting of old growth forests in the right of way which crosses O&C Land in Jackson County. O&C Counties have waited for this timber to mature and expect it to be harvested in turn with other O&C forest harvested tracts. The Pacific Connector Pipeline Project is not in conformance with the need to retain the land for its O&C mandate of sustainable yield.

The BLM manages the sale of tracts for harvest of O&C lands. The DEIS indicates that Applicant would contract with the BLM for the sale of this timber. But not in conformance with the BLM harvest plan for O&C lands.

A contract with BLM is not equivalent to payments to the O&C Counties. The contract for timber harvested to construct the pipeline appears to pay BLM. How will O&C Counties be assured of receiving their appropriate share of the revenue from harvested timber on O&C land?

The Applicant has indicated they will provide acres of land as an exchange for BLM and Federal Forest lands in Jackson County. The land exchange is to compensate for the land that in perpetuity will be removed from O&C sustainable harvest. Once the Pacific Connector Pipeline construction is completed, the easement right of way for the pipeline will remove from production O&C land and timber mandated for sustainable timber harvest. The proposed land exchange by Applicant is attempting to compensate the O&C Counties for O&C lands and timber removed from productivity after the pipeline construction.

CO24-2

It appears that Applicant proposes to purchase land to add to a matrix of BLM properties while taking out of production acres of contiguous land. By its nature, matrix land takes more effort to manage and harvest since the rights and desires of private property owners located within the matrix must be considered and dealt with before, after and during harvesting of timber and for recreational use. How will Applicant compensate O&C Counties and BLM for the increased management costs in perpetuity if the replacement is in a matrix rather than contiguous?

Further, how will equivalency be determined for the proposed replacement land? Will the replacement land be analyzed for quality and quantity of sustainable yield to insure that O&C Counties receive comparable yields and revenue streams for the existing land that proposed to be harvested by clear cutting and taken out of production?

How does FERC justify the taking of O&C lands with no decommission option for use not consistent with the original O&C Act? Will the final EIS be revised to account for this discrepancy?

As of 2015 02 10 8:53 pm

LWVRV

2 Of 2

02/10/15

CO24

Continued, page 3 of 3

CO24-2

The term "matrix land" is from the Northwest Forest Plan and refers to the public land managed by the BLM and Forest Service within the range of the northern spotted owl where the majority of the timber management activities is expected to occur. The term "matrix lands" applies only to public lands and does not apply to private property, nor does it relate to the continuity of ownership. The proposed acquisition calls for "comparable" lands where the expected timber yields of the lands acquired would be comparable to the timber yields lost due to the reallocation of matrix lands to LSR.

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM



COLUMBIA RIVERKEEPER
111 Third Street
Hood River, OR 97031
phone 541.387.3030
www.columbiariverkeeper.org

CO26

February 13, 2015

Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Columbia Riverkeeper Comment on FERC's Draft EIS for the Jordan Cove Energy Project (Docket No. CP13-483-000) and Pacific Connector Gas Pipeline (CP13-492-000)

Secretary Bose:

Columbia Riverkeeper submits the following comments on the Draft Environmental Impact Statement (DEIS) for the Jordan Cove Energy Project (CP13-483-000) and the Pacific Connector Gas Pipeline (CP13-492-000) on behalf of our members throughout the states of Oregon and Washington. Columbia Riverkeeper firmly opposes development of the Jordan Cove Energy Project ("Jordan Cove") and Pacific Connector Gas Pipeline ("Pacific Connector"). We oppose the development of liquefied natural gas (LNG) export facilities anywhere in Oregon or Washington. Like the Oregon LNG and Oregon Pipeline (CP09-6 & CP09-7) proposals on the Columbia River, the Jordan Cove and Pacific Connector projects are not in the public interest because the projects impose significant environmental, economic, and public safety impacts on Oregonians. The applicants fail to demonstrate that the project's impacts can be mitigated.

CO25-1

Columbia Riverkeeper opposes the construction and operation of the Jordan Cove terminal and Pacific Connector pipeline because they will dramatically degrade the Coos Bay Estuary, damage hundreds of streams and rivers, and jeopardize the health and safety of residents close to the terminal and pipeline. Moreover, by exporting LNG the terminal and pipeline will induce more hydraulic fracturing ("fracking") and other natural gas production throughout North America, increasing greenhouse gas pollution. For all these reasons and others described in more detail below, we urge the Federal Energy Regulatory Commission (FERC) to deny authorization for the Jordan Cove LNG terminal and Pacific Connector Gas Pipeline.

CO25-2

CO26-3

Specifically, Columbia Riverkeeper requests that FERC issue a supplemental DEIS for public comment because the current DEIS is wholly inadequate. The DEIS contains major

CO25-4

CO26

Columbia Riverkeeper, Daniel Serres

- CO26-1 Nowhere in the DEIS is there a statement that the Project would be in the "public interest." In fact, the Commission would make its finding of public benefit in its decision-document Project Order. The EIS is not a decision-document. The Commission would issue its Order after we have produced an FEIS. The FEIS contains an analysis of mitigation measures and their expected effectiveness.
- CO26-2 Comment noted. Impacts to waterbodies is addressed in section 4.4. Human health and safety is addressed in section 4.13.
- CO26-3 Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.
- CO26-4 We do not agree that the DEIS is inadequate.

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

factual errors, fails to address reasonable alternatives, relies on incomplete supporting analyses, and fails to evaluate significant economic, social, and environmental consequences of the proposed Jordan Cove and Pacific Connector projects. These errors cannot be corrected in a final EIS without the opportunity for public comment. Instead, FERC's regulations require FERC to supplement the inadequate DEIS and circulate the supplement draft for public comment. 40 C.F.R. § 1502.9(c).

CO26-4
Cont'd

The DEIS fails to consider the cumulative impact of multiple LNG terminals in Oregon.

FERC is currently preparing a DEIS for the Oregon LNG terminal and related Oregon Pipeline and Washington Expansion Project. In scoping comments for both Oregon LNG and the Jordan Cove LNG terminal, Columbia Riverkeeper and others urged FERC to conduct a programmatic or area-wide environmental review of LNG terminals and their related pipelines in Oregon and Washington. We also urged FERC to consider carefully the cumulative impact of establishing both LNG terminals and their related pipelines in Oregon and to weigh the terminals as potential alternatives to one another. The DEIS fails to provide either an analysis of the projects' relative impacts or a clear view of how the region would be impacted by both terminals.

CO26-5

FERC sidesteps the analysis required to evaluate the relative and combined impact of Oregon LNG, Jordan Cove LNG, and their related pipelines, writing:

The FERC has not completed its environmental review of the combined Oregon LNG and WEP Projects; and we have not yet issued a draft EIS for the projects. It would be premature, prior to the issuance of the draft EIS, to assume that the combined Oregon LNG and WEP Projects would have either significant environmental impacts or advantages over the proposed JCE & PCGP Project.

DEIS 3-9. The lack of a complete DEIS for the Oregon LNG proposal does not excuse FERC from evaluating its potential as an alternative to the Jordan Cove project. To be clear, Columbia Riverkeeper opposes both projects. However, FERC cannot conclude that they are equivalent without providing some justification for its conclusion. In fact, Oregon LNG and its related pipelines differ significantly from the Jordan Cove terminal and the Pacific Connector pipeline in many respects, including a requirement for less dredging and excavation to construct the terminal and turning basin. Oregon LNG also proposes to use horizontal directional drills in a higher proportion of its stream crossings. Without any analysis of how the projects compare, the DEIS fails to illuminate why the Jordan Cove LNG terminal and Pacific Connector pipeline do not adopt some of the components of the Oregon LNG project that could reduce impacts to water quality.

Not only does the DEIS omit any detailed analysis of the Oregon LNG terminal in

Ms. Kimberly Bose, FERC
February 13, 2015
Page 2

CO26

Continued, page 2 of 13

CO26-5

The Oregon LNG proposal is being considered in a separate NEPA analysis. FERC considers each application separately on its own merits. The Commission may approve one or both projects. If both projects are approved, the marketplace will determine if either or both are built. Both projects would need to conform to all the requirements of the CWA.

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

CO26

Continued, page 3 of 13

comparison with the Jordan Cove LNG terminal, it also fails to take a hard look at how the two projects would cumulatively impact the region. Taken together, the Oregon LNG and Jordan Cove LNG terminals would have the capacity to export over 2.2 billion cubic feet of gas per day, an amount that exceeds the combined natural gas consumption of the states of Oregon and Washington each day (roughly 1.52 bcf/d according to EIA data for 2013). The projects would significantly alter U.S. natural gas markets. Outside of the Pacific Northwest, the projects will induce additional natural gas production in the United States, primarily involving hydraulic fracturing (i.e., fracking) of unconventional gas sources, causing attendant environmental harm; this inducement will occur notwithstanding Oregon LNG or Jordan Cove LNG terminal plans to export gas produced in Canada. The project will also increase domestic gas prices, likely causing an increase in coal fired electricity generation, increasing emissions of greenhouse gas, conventional, and toxic air pollutants.

Prior to developing its DEIS, comments from the State of Oregon requested that FERC consider the impact of natural gas exports on domestic gas pricing and induced gas production. The State of Oregon wrote,

The Commission has stated in public scoping meetings that it considers the effects of export on domestic natural gas prices and the environmental impacts of hydraulic "fracking" used in horizontal drilling during the production of natural gas for eventual export as being outside the scope of this EIS. **The State of Oregon respectfully disagrees.** These significant impacts must be addressed in this EIS because they are causally connected to the proposed action. See *Dept. of Transportation v. Public Citizen*, 541 U.S. 752, 764 (2004).¹

Not only does FERC fail to assess adequately the impact of one LNG export terminal on domestic gas prices and its inducement of fracking, the DEIS wholly fails to address the potential cumulative impact of both the Jordan Cove LNG terminal and Oregon LNG projects together. FERC's failure to address the combined impact of Jordan Cove LNG and Oregon LNG represents a fundamental flaw in the DEIS and requires further analysis in a supplemental DEIS.

The DEIS also gives cursory analysis to the potential cumulative impacts of the Oregon LNG project and the Jordan Cove LNG project. These include, but are not limited to, impacts on marine mammals and migratory bird species that may share habitat impacted by the Jordan Cove LNG terminal, Pacific Connector pipeline, Oregon LNG terminal, Oregon Pipeline, and Washington Expansion Project. FERC addresses Oregon LNG briefly in a few places in the DEIS. For example, FERC states,

Oregon LNG listed 25 fish species, 4 marine turtles, 12 marine mammals, 4 birds, and 2

¹ State of Scoping Comments on Jordan Cove Energy Project. October 29, 2012

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

plant species that it considered special status species or are federally listed threatened or endangered or candidate species within the area of effect for the LNG terminal, including the waterway for LNG vessel marine traffic. Along the route of the pipeline, Oregon LNG listed 25 fish, 4 terrestrial mammal, 2 terrestrial reptile, 7 bird, 1 invertebrate, and 12 plant species that it considered special status species or that are federally listed threatened or endangered or candidate species within the area of effect. The FERC has not yet produced a BA that would assess the impact of the Oregon LNG Project on federally listed threatened or endangered species in accordance with the ESA.

Construction of the Oregon LNG Project could occur at the same time as the JCE & and PCGP Project, and would affect similar types of resources; however, these impacts would occur in northern Oregon and in Washington. The Oregon LNG Project would not affect any of the counties or watersheds in southwestern Oregon where JCE & PCGP Project facilities would be located. Because the Oregon LNG Project facilities would not be situated in the same geographic area as the JCE & PCGP Project, we conclude that the Project would not contribute to cumulative impacts on resources within the watersheds crossed by the Pacific Connector pipeline route.

DEIS 4-1044. In short, FERC concludes that the projects will not produce significant cumulative impacts because "facilities would not be situated in the same geographic area." Yet, by FERC's own admission the impacts of each of the LNG projects and their related pipelines would extend beyond the watersheds where they are physically located.

For example, vessels carrying LNG to and from the Oregon LNG and Jordan Cove LNG would impact marine mammals in overlapping areas in migratory pathways along the coast of Oregon and Washington. Oregon LNG would add 127 loaded LNG tankers crossing the Columbia River bar into the Pacific Ocean each year, adding to the vessel traffic from the Jordan Cove LNG terminal. Increased LNG tanker traffic from both LNG terminals would enhance the potential for ship strikes on federally protected marine mammals. Moreover, as described below, the Oregon LNG and Jordan Cove LNG projects would be contributing new tanker traffic in addition to other potential vessel increases from other coal, oil, LPG, and methanol export facilities in the Pacific Northwest.

In addition to tanker traffic, the DEIS does not take a hard look at other combined off-site impacts of the proposed LNG terminals, such as the transport and disposal of hazardous materials produced at the terminals. Both Jordan Cove LNG and Oregon LNG would require gas pretreatment activities, which would produce mercury and other dangerous solid waste that would be trucked on Oregon's roadways to undisclosed disposal sites. The DEIS describes the solid waste stream coming from the Jordan Cove LNG terminal, stating:

The spent H₂S Scavenger chemical would be stored on site in a storage tank and trucked off periodically to an approved disposal site. Mercury in the feed gas would be removed

Ms. Kimberly Bose, FERC
February 13, 2015
Page 4

CO26

Continued, page 4 of 13

CO26-6

Comment noted. Other than the fact that ships bound for Coos Bay and the Columbia River would all cross the Pacific Ocean, the two projects would affect different regions and different infrastructure and facilities.

CO26-6

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

in the Mercury Removal Vessels. Jordan Cove would need to replace the mercury removal beds by the end of their service life. Maintenance and safety procedures would cover the proper replacement and disposal of spent materials.

DEIS 4-922. FERC's analysis does not disclose the frequency or impact of disposal of mercury and other hazardous waste produced at the Jordan Cove LNG terminal, nor does it attempt to assess how the Oregon LNG terminal would add to the risk of transporting and disposing of toxic materials in Oregon.

In yet another example of the DEIS failing to assess the combined impacts of both proposed LNG terminals and their proposed pipelines, the DEIS fails to disclose impacts on migratory birds. In fact, the DEIS is woefully inept in assessing the impact on migratory birds of the combined Jordan Cove LNG terminal and Pacific Connector projects, alone. The DEIS states, "We recommend that both Jordan Cove and Pacific Connector be required to reduce impacts on migratory birds by producing and following the measures outlined in a *Migratory Bird Conservation Plan*." DEIS 4-1028. The DEIS goes on to recommend that the Jordan Cove LNG terminal and Pacific Connector pipeline produce a Migratory Bird Conservation Plan, which was not yet publicly available as of the drafting of these comments. The Oregon LNG terminal, Oregon Pipeline, and Washington Expansion Project will all negatively impact habitat for migratory birds. These impacts could add to the negative impacts in migratory habitat further south at the proposed Jordan Cove LNG terminal.

CO26-7

In comments submitted to FERC about the Oregon LNG project, NOAA Fisheries specifically urged FERC to address potential cumulative impacts of multiple LNG facilities in the region. NOAA wrote,

Special attention should be given to the cumulative impacts associated with the construction and operation of multiple LNG terminals within an impacted region and alternatives explored that co-locate or replace redundant systems. The area considered for the cumulative impacts analysis should be determined according to particular geographic, environmental, and biological characteristics (e.g., presence/absence of physical or geographic barriers, currents, and highly migratory species), which might impact the propagation of impacts from multiple LNG terminals. Information that should be considered in a cumulative impact analysis includes the number of existing, proposed, and planned LNG terminals; their location; project specific details (e.g., open-loop vs. hybrid or closed-loop system); and fishery resources at risk.²

As a whole, FERC's DEIS for the Jordan Cove project fails to address how industrialization of two sensitive estuarine areas cumulatively diminishes habitat for wildlife along Oregon's Coast, including marine mammals and migratory birds. FERC's DEIS does not

² NMFS Comment on Oregon LNG. December 20, 2012. Attached as

Ms. Kimberly Bose, FERC
February 13, 2015
Page 5

CO26

Continued, page 5 of 13

CO26-7

The cumulative impacts of the Oregon LNG and JCPC projects, should both be approved and built, is assessed in section 4.14. Each project would be required by the FWS to develop a Migratory Bird Conservation Plan. The applicants have filed their plan and it is included in the FEIS.

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

provide adequate justification for dismissing the cumulative impacts of Oregon LNG, Jordan Cove LNG, and their associated pipelines.

The DEIS fails to consider the cumulative impacts of other fossil fuel export terminals proposed in the region.

The DEIS makes no effort to assess other reasonably foreseeable projects that could increase greenhouse gas pollution and tanker traffic along the Pacific Northwest Coast, including:

- Millennium Bulk Coal Export Terminal. Longview, Washington. Ambre Energy proposes building and operating a 44 million ton per year coal export terminal on the Columbia River. The project requires dredging to accommodate deep draft vessels and new industrial docks, among other things. At two loaded vessels per day, the Millennium project would add 730 outgoing Panamax vessels per year.
- Morrow Pacific Coal Export Project. Boardman, Oregon. The Morrow Pacific Project would export 8 million tons of coal per year using two Columbia River ports—the Port of Morrow and Port Westward. The project requires building a new dock at the Port of Morrow, barging coal to Port Westward, and transferring coal from barges to Panamax vessels. The project would add 133 outgoing Panamax vessels per year.
- Tesoro/Savage Oil-by-Rail Terminal. Vancouver, Washington. Tesoro/Savage proposes the nation's largest crude oil-by-rail terminal project at the Port of Vancouver. Tesoro/Savage's application to Washington EFSEC states that the project could require as many as 365 vessels per year to transport 360,000 barrels of crude oil each day.
- Global Partners Oil-by-Rail Terminal. Port Westward, Oregon. Global started operating a crude oil-by-rail terminal in late 2012. Global intends to sharply increase its shipments of crude oil through Port Westward. According to Oregon DEQ, Global could ship as much as 120,000 barrels/day, increasing vessel traffic by 115 vessels per year.
- Northwest Innovation Works Methanol Export Terminals. Kalama, Washington, and Port Westward, Oregon. Two methanol export proposals would use large volumes of natural gas to produce and export methanol to China from the Port of Kalama and Port Westward. Each facility would require two ships per week, totaling 208 ships per year.³

These proposed fossil fuel transport projects alone would add over 1,500 outgoing deep draft vessels, increasing vessel traffic by 117% in the Columbia River and significantly in the Pacific Ocean near the Oregon and Washington coasts. FERC dismisses the impact of the Jordan Cove LNG terminal's contribution to an increase in tanker traffic in the Pacific without recognizing the

³ See Columbia Riverkeeper et al. Comments on Section 404 Clean Water Act Permit for Oregon LNG. January 2015. p. 112.

Ms. Kimberly Bose, FERC
February 13, 2015
Page 6

CO26

Continued, page 6 of 13

CO26-8

This EIS analyses the environmental effects of the Proposed Action. These projects are not within the scope of this analysis. The cumulative effects section considers reasonably foreseeable projects in the analysis area, not foreseeable projects across the West. The scope of the cumulative effects analysis is discussed in section 4.14.2.3

CO26-8

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

dramatic potential uptick in tanker traffic that will result from all of the potential fossil fuel export projects in the Pacific Northwest. Unfortunately, FERC also chooses to exclude detailed analysis of LNG vessels and impacts along their shipping routes, stating, “LNG vessel design and ocean transportation routes outside of the waterway close to shore will not be further analyzed in this EIS.” DEIS 2-76. FERC’s arbitrary decision to narrow its analysis precludes the DEIS from accurately assessing the cumulative impact of LNG tanker traffic in combination with other fossil fuel projects.

CO26-9

Furthermore, the DEIS does not address the significant cumulative carbon pollution generated by fossil fuel export projects in the Pacific Northwest. For gas export projects alone, the Pacific Northwest and British Columbia are home to proposals that would transport at least 11.7 billion cubic feet of natural gas per day.⁴ If each 1,000 cubic feet of natural gas emits 53 kilograms of carbon dioxide when burned, the volume of natural gas planned for these pipelines would emit roughly 227 million metric tons of carbon dioxide per year. Notably, this figure is based only on estimates of the direct combustion of natural gas by the Energy Information Administration, and it does not add the significant contribution of the production, handling, leakage and transport of natural gas to the overall carbon footprint of LNG export projects. When added to proposals to export coal, oil, and other fossil fuels, the combustion of fossil fuels proposed for export from the Pacific Northwest exceeds 822 million metric tons of carbon dioxide per year – a figure that is five times larger than the footprint of the Keystone XL pipeline.⁵ And, this estimate does not include the significant upstream and downstream greenhouse gas pollution of the supply chain for oil, gas, coal, and other fossil fuel exports.

CO26-10

The DEIS is incomplete and relies on studies that have not been completed or are publicly unavailable.

The DEIS relies on documents that are incomplete, nonexistent, and unavailable to the public. Most glaringly, the DEIS makes repeated reference to the FERC-generated Biological Assessment (BA). This document is incomplete according to FERC, and as a result the BA has not been provided to the public. The DEIS directly relies on the BA to justify FERC’s analysis of impacts on a variety of resources. The DEIS cites the BA in drawing conclusions about the adequacy of compensatory mitigation on federal lands, the likelihood of ship strikes harming whales, and the impact of the Jordan Cove LNG terminal and Pacific Connector pipeline on threatened and endangered fish, wildlife, and rare plants. Because the DEIS depends on the BA to support its analysis, FERC must release the BA and allow the public to comment on FERC’s analysis. In short, the public should have access to documents that are referenced in the DEIS, particularly when they are relied upon for the conclusions in the DEIS.

CO26-11

⁴ Sightline Institute. “Northwest Fossil Fuel Exports. Planned facilities would handle five times as much carbon as the Keystone XL Pipeline.” September 2014. P. 8
⁵ Id. P.1.

Ms. Kimberly Bose, FERC
February 13, 2015
Page 7

CO26

Continued, page 7 of 13

CO26-9

FERC does not manage shipping lanes between Coos Bay and Asia. The requested analysis would be beyond the scope of this Project.

CO26-10

See the response to IND1-1.

CO26-11

The EIS (which is prepared in compliance with NEPA) does not depend on the analysis found in the BA (which is prepared in compliance with the ESA). The EIS does reference the BA, but it also contains a detailed assessment of the potential impacts that would occur to listed species (see section 4.7). The ESA does not contain any requirement for the BA to be publicly commented on. The BA will be completed prior to the release of the Final EIS, and will be provided to the FWS and NOAA for review (as required by the ESA). There is sufficient information in the EIS for the public to review the potential impacts that would occur to listed species.

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

CO26 Continued, page 8 of 13

Additionally, Section 5 of the DEIS contains a long list of conditions that ask Jordan Cove or Pacific Connector to produce plans and studies that underpin FERC's analysis and conclusions in the DEIS. These incomplete plans and studies should have been produced prior to the issuance of the DEIS. FERC asks the Jordan Cove LNG terminal and Pacific Connector pipeline to produce some of the information – including variations to the route of the pipeline itself on federal lands – during the DEIS comment period. The public has not been afforded adequate time to review and comment on materials submitted by Jordan Cove and Pacific Connector during the public comment period for the DEIS. Moreover, the DEIS is incomplete because it pre-emptively relied on information in plans that were not published or complete when the DEIS was issued. The list of incomplete documents referenced in the DEIS includes a Migratory Bird Conservation Plan, Final Wetland Compensatory Mitigation Plan, Final Spill Plan, Habitat Mitigation Plan for Non-Federal Lands, Stream Crossing Monitoring Plan, Groundwater Supply Monitoring and Mitigation Plan, Lighting Plan, Pinniped Monitoring and Adaptive Management Plan, Emergency Response Plan, Cost Sharing Plan, and many others. The DEIS assumes the adequacy of these incomplete or non-existent documents to support its conclusions about the impacts of the Jordan Cove LNG terminal and Pacific Connector pipeline, yet it does not require completion of some of these documents until construction actually begins on the project.

CO26-12

CO26-12 It is the Commissions normal process to condition any decision on the applicant meeting conditions in its Public Order.

CO26-13 Safety is addressed in section 4.13.

Columbia Riverkeeper urges FERC to issue a supplemental DEIS that incorporates the detailed comments and concerns expressed by Drs. Jerry Havens and James Venart. In their comments regarding the DEIS, these experts clearly identify gaps in the public information available regarding the public safety risks of the Jordan Cove LNG terminal. The DEIS must disclose information pertinent to how it concludes that public safety risks at the Jordan Cove LNG terminal may be mitigated to acceptable levels, a conclusion that conflicts with the potential catastrophic impact of a spill, fire, or explosion at the Jordan Cove LNG terminal. Indeed, comments of Professors Havens and Venart state,

CO26-13

We believe the hazards attending the proposed operations at the Jordan Cove export facility could have the potential to rise, as a result of cascading events, to catastrophic levels that could cause the near-total and possibly total loss of the facility, including any LNG ship berthed there. Such an event could present serious hazards to the public well beyond the facility boundaries.⁶

Havens and Venart continue to describe how FERC relies on modeling techniques that are publicly unavailable and appear to underestimate the fire and explosion risks association with the proposed terminal. They write that the “DEIS relies, for prediction of exclusion zone distances,

⁶ Comments of Professor Jerry Havens and Professor James Venart. January 14, 2015.

Ms. Kimberly Bose, FERC
February 13, 2015
Page 8

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

CO26

Continued, page 9 of 13

on the use of mathematical models which have not been subjected to adequate (open for public inspection) validation requirements either by comparison with experimental data or independent scientific peer review.” We share the concerns raised by Professors Havens and Venart, and we request that FERC produce a supplemental DEIS with a transparent, thorough evaluation of the Jordan Cove LNG terminal’s impact on the public health and safety of the communities close to the proposed facility.

FERC’s DEIS conflicts with NMFS’s recommendations on evaluating LNG terminals.

In comments on the Oregon LNG project, NOAA Fisheries urged FERC to consider carefully how it evaluates the siting and impact of proposed LNG facilities. NOAA wrote, “The location of LNG terminals, and associated infrastructure, will influence the type and magnitude of impacts on aquatic resources. The Commission should follow these recommendations with regard to import terminal siting to mitigate for project effects on marine and anadromous resources.” NOAA’s letter is attached to these comments. While the letter was written in response to the Oregon LNG proposal, the recommendations specifically urged FERC to address the following recommendations for LNG terminals in the region (not just Oregon LNG). NOAA recommended:

- *Site LNG new terminals as far offshore as feasible, in locations of lower biological productivity, and away from sensitive habitats and migration routes of marine mammals or protected migratory species.*
- *Site LNG terminals and associated pipeline networks to avoid or minimize construction and operation impacts on marine mammals, marine and anadromous fish, ESA-listed species, ESA-designated critical habitats, EFH [Essential Fish Habitat], estuaries, wetlands and shallow water habitats, and fishing areas.*
- *Site LNG terminals to maximize the use of existing viable infrastructure such as existing pipeline networks, and deep draft berthing areas.*
- *Site LNG terminals to minimize conflicts with current activities such as recognized spawning or nursery areas, areas where fishing gear is deployed, navigation channels, and research use areas.*
- *Minimize vessel use of confined waterways. Vessel passage in confined waterways can cause erosion of shoal water areas, resuspend sediment from the channel bottom, strand juvenile salmonids, and contribute to shoreline erosion.*
- *Resource evaluation surveys of the proposed site should include information comparing and contrasting the relative aquatic resource impacts of alternate LNG sites and associated infrastructure. The effort should consider and include information and analysis regarding: Marine mammals, marine, estuarine, and anadromous fish, endangered/threatened species, ESA critical habitat, EFH and HAPCs, impacts to the function and value of these habitats; local fishing activity;*

Ms. Kimberly Bose, FERC
February 13, 2015
Page 9

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

CO26

Continued, page 10 of 13

the type of federally-managed fish species that may be impacted; potential cumulative impacts; a consideration of how climate change may affect those impacts; and the possibilities of interconnecting with existing facilities (e.g., location of existing pipelines, heat sources, and other viable infrastructure) that the applicant could potentially utilize. The analysis should also consider the duration of identified species and habitat impacts.

- *Provide a reasonable range of alternative locations for the siting of the LNG terminal as part of the alternatives analyzed pursuant to NEPA. The analyses of these alternative sites should be comprehensive to allow for meaningful comparison among the sites. The alternatives analysis should consider all potential sites within the expected service area (e.g., west coast of North America) regardless of whether a project proponent has filed with FERC for authorization to construct a facility on that site.⁷*

The Jordan Cove LNG terminal and Pacific Connector pipeline fail to meet the recommendations put forward by NOAA. Additionally, the DEIS fails to address NOAA's concerns and directly contradicts NOAA's recommendation to: minimize dredging amounts; avoid impacts on sensitive fish habitat and fishing grounds; thoroughly evaluate alternate LNG sites; assess the cumulative impact of LNG projects and their related pipelines in Oregon and Washington; avoid siting terminal in a confined waterway; and opt for off-shore LNG terminal siting. In summary, the Jordan Cove LNG terminal and Pacific Connector pipeline directly conflict with NOAA's recommended approach to LNG siting.

CO26-14

CO26-14

Although the NOAA has been provided with a copy of the EIS and BA for their consideration and comments, they did not comment on the current export facility or associated pipeline during the comment period for the DEIS. Since the publication of the DEIS the NOAA has provided comments on the BA which will be considered.

The DEIS fails to consider the full greenhouse gas pollution impact of LNG exports.

As noted above, the State of Oregon urged FERC to assess the impact of induced natural gas production on greenhouse gas pollution. FERC largely ignored Oregon's suggestion. In comments on the DEIS, EPA urges FERC to acknowledge and respond to the issue of how induced gas production could impact overall emissions of greenhouse gas pollution and other environmental impacts. EPA writes, "[B]oth the Department of Energy (DOE) and the FERC have recognized that an expansion of LNG exports would lead to increases in production. We continue to believe that a conceptual-level discussion of possible impacts from increased production...would be useful for decision-makers."⁸ EPA goes on to recommend that FERC incorporate the results of DOE's study, "Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States." Because FERC's approach in the DEIS falls short of either an in-depth or even a "conceptual-level" analysis, as requested by EPA, the State of Oregon, and other public comments, we request that FERC issue a

⁷ Letter from NOAA Fisheries (National Marine Fisheries Service) to FERC, Oregon LNG NEPA Scoping, Dec. 20, 2012.

⁸ EPA Region 10 Comments to FERC, February 12, 2015, P. 9

Ms. Kimberly Bose, FERC
February 13, 2015
Page 10

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

supplemental DEIS with the required analysis.

Because the DEIS sidesteps a review of how additional gas drilling may impact the environment, it also fails to look at overwhelming scientific evidence that explains how natural gas production, transmission, and storage exacerbates climate change. Natural gas extraction is leaky, and natural gas is mostly methane, a highly potent greenhouse gas with one hundred times the climate change potential of carbon dioxide over a 20-year period). Cooling natural gas to about -162°C (-260°F) and shipping it overseas for use in distant countries is costly and energy-intensive. Natural gas is mostly methane, a super-potent greenhouse gas, which traps 86 times as much heat as carbon dioxide over a 20-year period. As a whole, the DEIS fails to address the contribution of LNG exports on increasing releases of methane and carbon dioxide from methane combustion into the atmosphere.

Furthermore, FERC's DEIS provides outdated analysis of the relative impact of natural gas exports on greenhouse gas pollution in comparison with other fossil fuels. According to a 2014 DOE report, the climate change impacts of LNG export to Asia are comparable to coal. On May 29, 2014, the DOE released a preliminary environmental report for public comment analyzing the lifecycle greenhouse gas emissions resulting from LNG exports. The results show that U.S. LNG would likely be nearly as bad as coal when exported to Europe and comparable to coal when exported to Asia when the climate impacts of methane leakage are measured over a 20-year timeframe.

Additionally, the DEIS fails to assess how even small leaks in the natural gas production and delivery system can have a large climate impact. Recent studies from major research universities highlight how methane leakage from gas production undermines any potential greenhouse gas benefit of using natural gas as an alternative to coal. The studies conclude that U.S. EPA, DOE, and other agencies fundamentally underestimate the leakage rate of methane, a powerful greenhouse gas.^{9 10 11} Given the conclusion in these studies, FERC should revise its analysis of the relative impact of natural gas production and LNG exports in a supplemental DEIS.

FERC not only failed to address Oregon's concerns about the environmental impacts of induced gas drilling and the greenhouse gas pollution that would be generated by the LNG export supply chain, it also stated that evaluating the greenhouse gas impact of the Jordan Cove LNG terminal and Pacific Connector pipeline would be "impossible." EPA directly contradicts FERC's approach in recent comments, telling FERC, "Rather than characterize the ability to

⁹ Howarth et al. 2014. A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas. Energy Science and Engineering.

¹⁰ Müller et al. 2014. Anthropogenic emissions of methane in the United States. Proceedings of the National Academy of Sciences.

¹¹ Brandt et al. 2014. Methane leaks for North American natural gas systems. Science.

Ms. Kimberly Bose, FERC
February 13, 2015
Page 11

CO26 Continued, page 11 of 13

CO26-15 See the responses to IND1-1 and 1-2.

CO26-16 Comment noted. See the response to CO10-3.

CO26-15

CO26-16

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

quantify impacts from emissions of GHG as 'impossible,' we recommend FERC consider the approaches for climate impact assessment outlined in CEQ's recent 'Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts.'¹² We request that FERC issue a supplemental DEIS that addresses the impacts of change pollution from the Jordan Cove LNG terminal, Pacific Connector pipeline, and the gas production the projects will induce.

CO26-18
Cont'd

Conclusion

As described above, FERC's DEIS for the Jordan Cove LNG terminal and Pacific Connector pipeline are inadequate for satisfying the requirements of the National Environmental Policy Act for disclosure of impacts on the environment and a reasonable evaluation of alternatives. The DEIS contains significant errors, omissions, and other flaws that must be resolved in a new, supplemental DEIS.

Sincerely,



Daniel Serres

Conservation Director
Columbia Riverkeeper
(503) 890-2441
dan@columbiariverkeeper.org

List of Exhibits:

1. Letter from NOAA Fisheries (National Marine Fisheries Service) to FERC, Oregon LNG NEPA Scoping (Dec. 20, 2012).
2. Howarth et al. 2014. A bridge to nowhere: methane emissions and the greenhouse gas footprint of natural gas. *Energy Science and Engineering*.
3. Miller et al. 2014. Anthropogenic emissions of methane in the United States. *Proceedings of the National Academy of Sciences*.
4. Brandt et al. 2014. Methane leaks for North American natural gas systems. *Science*.

CO26-17

¹² EPA Region 10 Comment letter to FERC. February 12, 2015.

CO26

Continued, page 12 of 13

CO26-17

This comment letter contained attachments that did not directly comment on the DEIS. These attachments have been reviewed and any relevant information found was incorporated into the analysis as applicable; however, the attachments are not included in this Appendix to the FEIS. The entire comment letter, including these attachments, is available on the eLibrary filed under accession number 20150213-5299.

20150213-5299 FERC PDF (Unofficial) 2/13/2015 4:27:04 PM

CO26 Continued, page 13 of 13

5. Northwest Fossil Fuel Exports. Planned facilities would handle five times as much carbon as the Keystone XL Pipeline.” September 2014.
6. Columbia Riverkeeper et al. Comment Letter to the U.S. Army Corps of Engineers Regarding Oregon LNG Export Terminal. January 2014.

cc via email w/o encl.:

Christine Reichgott, U.S. Environmental Protection Agency
Teresa Kubo, U.S. Environmental Protection Agency
Richard Chong, U.S. Army Corps of Engineers,
Mike Turaski, U.S. Army Corps of Engineers
Dick Pedersen, Oregon Department of Environmental Quality
Jennifer Purcell, Oregon Department of Environmental Quality
Sara Christensen, Oregon Department of Environmental Quality
Nina DeConcini, Oregon Department of Environmental Quality
Kerry Carroll, Washington Department of Ecology
Chris Knutsen, Oregon Department of Fish and Wildlife
Richard Whitman, State of Oregon Governor’s Office
Margi Hoffman, State of Oregon Governor’s Office
Larry Knudsen, Oregon Department of Justice
Anika Marriot, Oregon Department of Justice
Mike Lopez, Nez Perce
Brent Hall, Confederated Tribes of the Umatilla Indian Reservation
Audie Huber, Confederated Tribes of the Umatilla Indian Reservation
Carl Merkle, Confederated Tribes of the Umatilla Indian Reservation
Elmer Ward, Confederated Tribes of Warm Springs
Brady Kent, Confederated Tribes and Bands of the Yakama Nation
Elizabeth Sanchey, Confederated Tribes and Bands of the Yakama Nation

Ms. Kimberly Bose, FERC
February 13, 2015
Page 13

20150213-5194 FERC PDF (Unofficial) 2/13/2015 2:30:48 PM

CO27 Northwest Industrial Gas Users

CO27

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

In the Matter of the Application of
Pacific Connector Gas Pipeline, LP

Docket No. CP13-492-000

Introduction

Pursuant to the deadlines established in the Draft Environmental Impact Statement dated November 2014, and the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“FERC” or “Commission”), the Northwest Industrial Gas Users (NWIGU) submit these comments in the above-referenced docket. NWIGU intervened in this docket on June 17, 2013. NWIGU is a nonprofit association comprised of over forty industrial end users of natural gas with major facilities in the states of Oregon, Washington, and Idaho. NWIGU members include diverse industrial interests, including food processing, pulp and paper, wood products, electric generation, aluminum, steel, chemicals, electronics, and aerospace. The association provides an informational service to its members and participates in various regulatory matters that affect member interests. NWIGU member companies purchase transportation and storage services from Northwest Pipeline (“Northwest”), and purchase sales and transportation services from local distribution companies that acquire service from Northwest.

///

///

///

20150213-5194 FERC PDF (Unofficial) 2/13/2015 2:30:48 PM

CO27

Continued, page 2 of 6

COMMENTS OF NORTHWEST INDUSTRIAL GAS USERS

FERC must address many issues and weigh competing interests as part of its decision of whether or not to authorize the Pacific Connector, including a complete review of the environmental impacts associated with the construction and operation of the proposed facilities. As part of this process, NWIGU urges FERC to consider the benefits the Pacific Connector project will provide to the Pacific Northwest region in the form of increased natural gas capacity, economic development and enhanced reliability of gas supply in Southern Oregon.

If certificated, the Pacific Connector will add needed natural gas deliverability on the Northwest Pipeline Grants Pass Lateral. As designed, the existing Northwest Pipeline facilities serving western Oregon would receive added firm delivery capacity both South and North of the interconnection between Northwest Pipeline and the Pacific Connector at the Clarks Branch Meter station. This additional capacity on the Grants Pass lateral is needed and would benefit both current and future natural gas consumers in western Oregon.

The additional capacity south of the Clarks Branch Meter station interconnect would be approximately 76,000 decatherms (Dth) per day on the south flow basis without requiring any additional modifications to the Grants Pass lateral. NWIGU verified this figure with Northwest Pipeline officials. The 76,000 Dth per day of additional capacity would provide a very cost-effective way to deliver additional natural gas into southern Oregon. Northwest Pipeline is fully subscribed in southern Oregon, so the additional capacity would provide an opportunity for new natural gas demand to be served economically. The added natural gas deliverability on the Grants Pass Lateral would be a

CO27-1

CO27-1

Issues related to economic development are assessed and disclosed in Section 4.9. The primary purpose of the project is to export natural gas to Asian markets (as described in Chapter 1).

20150213-5194 FERC PDF (Unofficial) 2/13/2015 2:30:48 PM

CO27

Continued, page 3 of 6

significant economic benefit for southern Oregon that should be considered by FERC as part of this process.

In addition to south flow capacity, the Pacific Connector would provide incremental north flow capacity on the Grants Pass lateral of approximately 52,000 Dth per day--assuming minor modifications are made to that constrained portion of Northwest Pipeline. This figure was again verified by NWIGU with Northwest Pipeline officials. This capacity would be available on the Northwest Pipeline mainline between the Clarks Branch meter station interconnect and the Washougal gate station in southwestern Washington. Northwest Pipeline is fully subscribed on a long term basis on this segment of its system, so the additional capacity is needed.

Securing additional capacity on the fully subscribed Northwest Pipeline--with only minor investments--is a significant economic benefit to natural gas consumers in the area, and the region in general. This would be a very cost effective way to provide new gas service to communities such as Roseburg, Eugene, Albany and Salem. New gas service could enable economic development in these communities in the form of new large commercial and industrial uses of natural gas that would provide family wage jobs. The capacity can also serve additional residential natural gas growth.

The Pacific Connector could also provide a mechanism for emergency relief and response to gas consumers in Southern Oregon. NWIGU notes that shippers on the Pacific Connector, if it is certificated, could enter into an agreement whereby they would provide gas off the Pacific Connector to the Grants Pass lateral in the event of an emergency. In doing so, gas service in southern Oregon could be maintained during an emergency. Such an arrangement could provide gas consumers in Southern Oregon a

Page 3 --COMMENTS OF NORTHWEST INDUSTRIAL GAS USERS

20150213-5194 FERC PDF (Unofficial) 2/13/2015 2:30:48 PM

CO27

Continued, page 4 of 6

new level of reliability, and would be a significant safety and economic benefit to the region.

The Northwest Mutual Assistance Agreement is an agreement many entities in the Pacific Northwest have entered into addressing actions to maintain gas service during an emergency. NWIGU suggests that the Pacific Connector Pipeline (assuming it is approved by FERC) and its shippers join the Northwest Mutual Assistance Agreement and provide gas service for the Grants Pass lateral in the event of an emergency. This would be a potential economic and safety related benefit to gas consumers in Southern Oregon that FERC consider as part of its approval determination.

The economic benefits, additional capacity and enhanced reliability related to the Pacific Connector project noted by NWIGU are secondary benefits and are not reasons in and of themselves to approve the Pacific Connector. That decision rests on FERC's determination regarding the LNG export terminal. NWIGU neither supports nor opposes the certification of the export terminal. However, NWIGU urges FERC to consider the important secondary benefits of the Pacific Connector as part of this process.

CONCLUSION

In this docket, FERC is carefully looking at the environmental impacts associated with the construction and operation of the proposed facilities, as well as non-environmental factors such as markets and rates. As part of the process, NWIGU urges FERC to consider the secondary benefits to the project: increased capacity, economic development and enhanced reliability of gas supply in Southern Oregon. These secondary benefits would help maintain current gas supply and reliability and make economic development in the area possible. NWIGU appreciates the opportunity to

20150213-5194 FERC PDF (Unofficial) 2/13/2015 2:30:48 PM

CO27 Continued, page 5 of 6

provide these comments, and reserves the right to provide additional comments and further participate in this docket.

Dated: February 13, 2015.

Respectfully submitted,

/s/Chad M. Stokes

Chad M. Stokes

Tommy Brooks

Cable Huston LLP

1001 SW Fifth Ave., Suite 2000

Portland, Oregon 97204-1136

Telephone (503) 224-3092

Facsimile (503) 224-3176

E-Mail: cstokes@cablehuston.com

tbrooks@cablehuston.com

Of Attorneys for

Northwest Industrial Gas Users

Page 5 –COMMENTS OF NORTHWEST INDUSTRIAL GAS USERS

20150213-5194 FERC PDF (Unofficial) 2/13/2015 2:30:48 PM

CO27 Continued, page 6 of 6

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I caused the foregoing Comments of Northwest Industrial Gas Users in Docket No. CP13-492 to be served on each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Section 385.2010 of the Commission's Rules of Practice and Procedure.

Dated at Portland, Oregon the 13th day of February 2015.

/s/Chad M. Stokes
Chad M. Stokes
Cable Huston Benedict Haagensen
& Lloyd, LLP
1001 SW Fifth Avenue, Suite 2000
Portland, Oregon 97204-1136
Telephone: (503) 224-3092
Facsimile: (503) 224-3176
E-mail: cstokes@cablehuston.com

Of Attorneys for the
Northwest Industrial Gas Users

4816-5322-5249, v. 2

20150213-5199 FERC PDF (Unofficial) 2/13/2015 2:40:05 PM

CO28

Cascadia Forest Defenders, Eugene, OR.

Though it becomes clearer every day that we are standing on the threshold of climate catastrophe, the supposed public servants who comprise the Federal Energy Regulatory Commission are considering a project that would expand earth-destroying extractive industries and flatten Oregon forests. Cascadia Forest Defenders unequivocally opposes the construction of the Jordan Cove LNG export terminal and pipeline. Do not choose a foreign corporation's profits over the health of the land, the water, and the people who need them.

FERC failed to consider an assortment of the ways in which this project would devastate the environment, not only here in Oregon but across the country and around the world. Liquified Natural Gas is methane, a greenhouse gas 86 more times more potent than burning coal. Methane leaks into the atmosphere during the processes associated with LNG drilling, transportation, and processing. It also notoriously contaminates groundwater; methane concentrations are 17 times higher in drinking water wells near fracking sites than in normal wells.

CO28-1

Approving the Jordan Cove terminal and Pacific Connector Gas Pipeline would expand the fracking operations that enable that leakage to happen. There are already more than 500,000 active natural gas wells in the US, each of which requires one to eight million gallons of water for each fracture job. Enabling this industry to grow even more is an act of blatant disregard for the planet, for our limited life-sustaining natural resources, and for the wellbeing of the people most influenced by fracking operations.

CO28-2

Here in Oregon, the project would cause hundreds of landowners would lose their properties to eminent domain. No company should have the right to condemn Oregonians' land and lifestyles - especially not a company that will cut corners around safety standards by using thin pipes and inefficient welds. Many of the landowners who face eminent domain threats have been speaking out against the pipeline for years; why haven't you been listening?

CO28-3

The project additionally commissions a vast clearcut - a 100-foot wide easement across 75 miles of southern Oregon public forests, most of which have been reserved for threatened species like the Marbled Murrelet, the Northern Spotted Owl, and the Coho Salmon. 400 waterways will have their stream-side vegetation permanently cleared. This is unfathomable and inexcusable.

CO28-4

Consider the environmental consequences of this project more carefully. Extend the public comment period so that the people most influenced have a fair opportunity to weigh in on it. Decide on the Jordan Cove Energy Project and Pacific Connector Gas Pipeline from a perspective that values factors more important than corporate interests. We assume that you are familiar with the Tar Sands Blockade, a massive national movement against the Keystone XL Pipeline. Those of us who spent time there aren't fond of fracking, habitat destruction, or ruining rural peoples' lives -- and we

CO28-5

certainly are getting sick of the federal agencies condoning those things. Make the right choice, FERC. If you build it, we will fight.

For the wild,
Cascadia Forest Defenders

CO28

Cascadia Forest Defenders

CO28-1 See the response to IND1-1.

CO28-2 Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3.

CO28-3 The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947.

CO28-4 Comment noted.

CO28-5 The 90-day period to comment on the DEIS was not extended past February 13, 2015.

20150213-5276 FERC PDF (Unofficial) 2/13/2015 3:55:56 PM

CO29

February 13, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Dear Ms. Bose,

I am writing on behalf of the Pacific Crest Trail Association (PCTA) in regards to the draft Environmental Impact Statement (EIS) for the planned Pacific Connector Pipeline, project docket number CP13-483-000. As the primary private partner with the United States Forest Service (USFS) in the management of the Pacific Crest National Scenic Trail (PCNST), we at PCTA work closely with USFS at the local Forest level. Specifically, I work with staff on the Rogue River-Siskiyou National Forest (RRSNF) in Southern Oregon where the proposed pipeline would cross the Pacific Crest Trail.

The Pacific Crest Trail is an internationally significant resource and we work hard to manage it as such. While we are pleased to see certain specific site mitigation measures identified on page 4-728, we take exception with the USFS proposed Forest Plan amendment that would allow for a visual quality objective of modification at the PCT crossing and feel that some additional mitigation measures are necessary. We feel that 15-20 years is entirely too long for the visual quality of a National Scenic Trail to be restored. We request that FERC work with the USFS in order to restore the visual quality objective on a shorter timetable by planting larger trees rather than planting smaller trees that will take years to mature. We also request that the corridor be narrowed to 75 feet for 500 feet on both sides of the trail rather than 100 feet. And, it should be noted that with increased use on the PCT by recreationists of all ages, the 'busy season' at the proposed crossing location is much longer than a few weeks (described as mid-July to early August in the document). Realistically, the busy season could last from June through September and we suggest considering a spring or fall timeline to complete the construction at the PCT crossing to avoid having to detour many trail users.

CO29-1

I thank you for your consideration and look forward to working together to minimize the negative visual impacts a pipeline project of this scale will inevitably have on the Pacific Crest National Scenic Trail as best as possible. And, I stand ready and willing to work with the staff on the Rogue River-Siskiyou National Forest as the project moves forward.

Sincerely,

Ian Nelson

Regional Representative

Northern California/Southern Oregon

Pacific Crest Trail Association

Cc: Rob MacWhorter, Supervisor, Rogue River-Siskiyou National Forest

CO29

Pacific Crest Trail Association, Ian Nelson

CO29-1

Based on concerns raised by the public including the PCTA, additional analysis is being conducted between the Draft and Final EIS. This analysis may result in additional mitigation actions and a change in the wording of the proposed amendment RRNF-3. This additional analysis will be included in the FEIS. Additional mitigation actions identified by the new analysis would be incorporated in, and implemented through, the Aesthetics Management and Recreation Management appendices to the Plan of Development, and the Forest Service compensatory mitigation plan.

20160213-0004 FERC PDF (Unofficial) 2/13/2015 2:49:09 PM



CO30

International Union of Operating Engineers

AFFILIATED WITH THE AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

February 13, 2015

Kimberly D. Bose
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1A
Washington, D.C. 20426

**RE: COMMENTS REGARDING THE JORDAN COVER DRAFT
ENVIRONMENTAL IMPACT STATEMENT
DOCKET # CP13-483-000 AND #CP13-492-000**

Dear Ms. Bose:

The International Union of Operating Engineers (IUOE) represents heavy equipment operators and mechanics in the construction industry throughout the United States and Canada. Our members have helped build the nation's energy infrastructure that powers our country, including such notable projects as the Hoover dam, the Trans-Alaska Pipeline, and countless power plants and pipelines. Members of the Operating Engineers Union hope to put their skills and expertise to work building this next phase of American energy infrastructure in Oregon.

We believe the Draft Environmental Impact Statement (DEIS) failed to compare the reduced environmental impacts, including lessened air pollution, and beneficial economic impacts from Jordan Cove's higher construction wages to the several other pending and approved liquefied natural gas (LNG) export proposals. This comparison reveals that Jordan Cove has fewer environmental impacts than other FERC-approved LNG export projects.

In addition, we believe that the DEIS contains inaccuracies about the project for the following reasons:

- FERC submitted Jordan Cove to a punitive level of review compared to other proposals that possess more severe environmental impacts.
- The DEIS failed to accurately describe the Project's beneficial impacts on worldwide global warming, and the advantages of utilizing a West Coast, lightly traveled Port.
- The DEIS failed to summarize for reviewers that the Pipeline's impacts on federal lands appear to fully mitigated by land reclamation, purchase of lands, and forest restoration, among other measures.

CO30-1

CO30-2

CO30 International Union of Operating Engineers, James T. Callahan

CO30-1 Comment noted.

CO30-2 Comment noted.

JAMES T. CALLAHAN
GENERAL PRESIDENT

BRIAN E. HICKEY
GENERAL SECRETARY-TREASURER

GENERAL VICE PRESIDENTS

WILLIAM C. WAGGONER

PATRICK L. SINK
JERRY KALMAR

RUSSELL E. BURNS

JAMES M. SWEENEY

ROBERT T. HEENAN

DANIEL J. MCGRAW

DAREN KONOPASKI

MICHAEL GALLAGHER

GREG LALEVEE

TERRANCE E. MCGOWAN

LOUIS G. RASETTA

MARK MAHERLE

RANDY GRIFFIN

TRUSTEES

KURA J. BROWN
CHAIRMAN

BRUCE MOFFATT

JAMES T. KUNZ, JR.

JOSEPH SHANAHAN

EDWARD J. CURLY

GENERAL COUNSEL

BRIAN POWERS



1125 SEVENTEENTH STREET, NW • WASHINGTON, DC 20036-4707 • 202-429-9100 • WWW.IUOE.ORG

20150213-5214 FERC PDF (Unofficial) 2/13/2015 2:49:09 PM

CO30 Continued, page 2 of 5

CO30-3 Comment noted.

American national policy should encourage development of the very best proposals, including those with the lowest air pollution rates and water usage, the fewest environmental impacts, the most logical sites, that utilize the more promising resources, and which provide the most economic benefit to local communities.

For these reasons, the Jordan Cove proposal is far superior to the competing LNG terminals' applications. Jordan Cove's DEIS is complete and comprehensive. It covers virtually every conceivable issue and impact, and provides stark evidence that Jordan Cove may be the most carefully reviewed LNG export terminal in the United States – and perhaps the world.

We base our conclusions on three issues: Jordan Cove's outstanding efforts to cut their air pollution to a small fraction of the air pollution permitted at other export terminals, that Jordan Cove's West Coast site provides environmental and safety benefits, and the developer's commitment to a well-paid, unionized, construction work force will provide a measurable economic benefit that is superior to many other LNG export proposals.

In regards to air pollution, LNG Export terminals need considerable energy and typically construct and operate several energy generation turbines which produce air emissions. For instance, the Cheniere/Sabine Pass proposal's first phase alone would include twenty-six turbines. Based on our review of the Sabine Pass, Jordan Cove, and numerous other LNG export terminal proposals, it should be clear that these air emissions are the most significant adverse impacts from these facilities' operations. In stark contrast with Sabine Pass and other proposals, Jordan Cove is offering an exceptionally well-designed and better engineered configuration that will emit far less air pollution.

The Sabine Pass terminal in southeast Louisiana will emit air pollution tonnages that will be ten times larger than what Jordan Cove proposes. Sabine Pass will emit 7700 tons/year of air pollution, compared to only 700 tons/year from Jordan Cove. Jordan Cove is also proposing air-cooled condensers for its energy generation facility, which requires far less water usage than the water-cooled configuration proposed for other LNG export terminals. Jordan Cove will have a much reduced air pollution impact compared to Sabine Pass. Yet FERC's environmental assessment of Sabine Pass was just 140 pages long, in plain contrast with the 1400-page DEIS for Jordan Cove, a much smaller proposal with less air pollution. In fact, Jordan Cove will emit less air pollution than did the Weyerhaeuser mill that formerly occupied the site.

Jordan Cove will be sited on the West Coast in an underutilized port. Tankers carrying LNG from Jordan Cove to its Asian (and potentially Hawaiian) customers will travel thousands of miles less than would LNG ships originating from the Gulf Coast. Every reduction in ship-miles-traveled from Jordan Cove, rather than from the Gulf, is a large reduction in air emissions for the massive ship engines that typically burn some of the dirtiest types of fuel oil.

There are a dozen or more LNG proposals crowded into a narrow area near southwest Louisiana and Port Arthur, Texas. This proposed vast increase in LNG tanker traffic, combined with the existing tanker traffic to the multiple refineries and chemical plants in the immediate vicinity,

CO30-3

20150213-5214 FERC PDF (Unofficial) 2/13/2015 2:49:09 PM

presents a far larger potential for collision, than would the tanker traffic to and from Jordan Cove's less-traveled Port of Coos Bay. The DEIS should have discussed these advantages of greater safety and less air pollution from reduced shipping routes.

Jordan Cove has contractual obligations to pay union wages to its construction work force. This will produce about an additional \$10/hour benefit in wages paid to the thousands of construction workers, compared to other proposals to be built at far lower wages, such as Sabine Pass. Since Jordan Cove and its related pipeline could require 10 million or more worker-hours of construction, Jordan Cove's construction may produce as much as \$100 million in additional wages paid into the local and regional economy. The DEIS failed to fully discuss these additional benefits that of the Jordan Cove project, as compared to other facilities.

At Chapter 4, page 895, the DEIS claims the LNG facility and related operations will emit 2.1 million tons/year of GHG. This figure misleads the reader for the following reason: The Oregon Energy Facility Siting Council (EFSC) will issue a permit to the LNG terminal's South Dunes Power Plant. EFSC rules will not allow the facility to emit a net increase of GHG emissions of 2.1 million tons per year. The DEIS failed to acknowledge that Oregon rules require the Project to mitigate its GHG emissions for a net impact of no more than .672 lb. CO₂/kWh. The Project's ultimate net GHG emissions will be far less than what the DEIS claims would be 2.1 million ton/year.

The DEIS also stated the Project will cause a 15 million ton/year GHG emissions increase from the LNG's final use. Again, this misleads readers. This gas will be burnt in power plants that would otherwise be burning coal. In other words, the Project would allow fuel switching at Asian power plants. This will leave more coal in the ground, and cause a net decrease in those power plants' GHG emissions, when gas is utilized instead of coal. The Project will export enough gas to displace use of seven coal fired power plants. If those plants burnt coal, they would emit 28 million tons/year of GHG. If those power plants use the project's gas as fuel instead of coal, their GHG emissions would be only 14 million tons/year, for a net benefit of over 10 million tons a year in GHG emissions reductions.

To its credit, the DEIS cited two studies that plainly illustrated precisely this issue, that the project's export of LNG would replace coal combustion by its Asian customers, and would produce substantial reductions in GHG. (p. 4-895) The federal study examined the life cycle analysis of LNG exported from Louisiana to China, and determined it would reduce GHG gas emissions compared to combustion of either coal or Russian gas. Since Jordan Cove's LNG would travel thousands of fewer miles to its Asian customers than would ships from the Gulf of Mexico, Jordan Cove's LNG would provide even greater reductions in worldwide GHG emissions than estimated in the DOE study.

It is also possible that the DEIS overstated the likely end user GHG emissions from power plants supplied by Jordan Cove. The DEIS used emission factors from 40 CFR 98 to calculate the end use GHG emissions from Jordan cove-supplied fuel. If 40 CFR 98 utilized an emission factor based on combustion of pipeline quality gas, then those factors may overestimate GHG emissions from the end use of Jordan Cove's fuel.

CO30

Continued, page 3 of 5

CO30-4

Comment noted.

CO30-5

Comment noted. With respect to CO₂ from the project, the EIS reflects what was identified in the proponent's air permit application. We are aware that EFSC identifies a standard of 0.675 lb CO₂/kWh, but this can also be met by obtaining CO₂ offsets (http://www.oregon.gov/energy/Siting/Pages/standards.aspx#Carb on_Dioxide_Emissions). With regard to the extent to which various other energy sources/supplies may be displaced, FERC believes that a precise quantitative analysis is speculative, but the EIS has been revised to provide more global context.

CO30-4

CO30-5

20150213-5214 FERC PDF (Unofficial) 2/13/2015 2:49:09 PM

CO30

Continued, page 4 of 5

CO30-6

The goal of the proposed BLM and Forest Service compensatory mitigation plans is to ensure that the objectives of the LMPs could continue to be met if the PCGP project were approved and constructed. The beneficial effects of the mitigation actions are discussed in the DEIS in sections 2.1.4, 4.1.3, and Appendix F.

Jordan cove will treat its pipeline-quality natural gas feedstock to remove trace contaminants before the gas can be liquefied. (EFSC Application, p. B-6) For instance, pipeline quality gas contains about 2% CO2. Pre-treatment would remove this CO2 and other contaminants and make the treated gas "cleaner" than pipeline quality gas. Its combustion would create lower emissions of GHG than would combustion of pipeline quality gas. If the DEIS calculates emissions from combustion of gas supplied by Jordan Cove as if it was mere pipeline quality gas, and not the more extensively-treated gas with the CO2 removed, then the DEIS has overestimated the end use GHG emissions of Jordan Cove.

The Pacific Connector Pipeline will bring natural gas to the Jordan Facility. It will run through federally-administered lands, mostly under Bureau of Land Management and U.S. Forest Service jurisdiction. The DEIS discusses the pipeline construction impacts, and the proposed mitigation measures at great length. The proposed mitigation projects more than make up for the pipeline's adverse impacts. Table 2.3.2 3-1 shows less than 1,400 acres of federal lands affected. But far more acreage of lands and water bodies will be restored and improved, than actually affected, indicating a net benefit. The DEIS, however, does not make this point clearly.

The DEIS lacks a concise comparison of the pipeline's impacts and the mitigation proposals. Reviewers of the DEIS have a difficult time evaluating how the mitigation measures will fully account for the pipeline construction's impacts on the forest, land uses, and water quality, among other effects. The DEIS' charts beginning on pp. 2-55 through 2-71 are helpful, and their detail is important. However their arrangement by mitigation "group" is somewhat difficult to follow for lay readers. Persons who are looking for projects that are crafted to mitigate specific adverse impacts will have to wade through considerable text to find the connections. The DEIS describes the impacts in one area, the mitigation measures in another portion, without a providing a very simple graph to compare impacts and mitigations. We suggest an oversimplified version, such as the following:

IMPACT	MITIGATION PROJECTS
Soil compaction from construction causing increased stormwater runoff	A total of 200 miles of roads will be decommissioned, removed, and improved.

Table 2.1 4-2 does assemble mitigation projects by the affected LMP amendments (and watershed), but it is difficult to determine that the total of mitigation project improvements meet and exceed the short term, limited impacts of the pipeline construction and operation.

As a result, many people commenting at the public hearings had the impression that many impacts were completely unmitigated, when in fact the DEIS described upcoming projects to make up for adverse impacts. In most cases, identical projects were scattered throughout Chapter 2 and we had to try and add them together. For instance culvert removal and stabilization projects were discussed on both pp.2-59 and 2-56. For instance, the mitigation measures include at least these projects:

CO30-6

20150213-5214 FERC PDF (Unofficial) 2/13/2015 2:49:09 PM

CO30

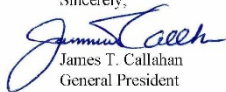
Continued, page 5 of 5

- 620 acres of habitat plantings. (2-62)
- 98.5 miles of roads decommissioned, 18 miles of roads closed, 94 miles of road improvement to reduce runoff (p 2-57, 58)
- Fish passage will be improved by removal of 14 culverts (p 2-56 and elsewhere)
- 620 acres will be improved for habitat for sensitive species
- A total of 10,000 acres of forest improvement projects
- Placement of wood debris and snags on 30 miles of streams, and plots totaling about 1500 acres. (P 2-55, 63, 64 and elsewhere)
- 309 acres of wetlands mitigation projects (p. 2-87)
- 6600 total acres of fuel reduction (p. 2-53)
- 1896 acres of forest lands acquired. (p. 2-65)

The sum of these projects seems to improve considerably more lands and habitat than the pipeline's temporary disturbance of 1,400 acres.

The International Union of Operating Engineers appreciates the opportunity to comment on the Jordan Cove Draft Environmental Impact Statement. If you would like to speak with us regarding our comments, please contact the IUOE's Legislative Director, Jeff Soth, at (202) 778-2650.

Sincerely,



James T. Callahan
General President

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM



February 13th, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Dr. Ernest Moniz, Secretary
Department of Energy
1000 Independence Ave. SW
Washington DC 20585

RE: Comments on the Jordan Cove Energy and Pacific Connector Gas Pipeline
Project: Draft Environmental Impact Statement and Public Interest Determination
Docket Numbers CP13-483-000, CP13-492-000, and 12-32-LNG.

Dear Secretary Bose:

Center for Sustainable Economy (CSE) has the following comments to offer on the Draft Environmental Impact Statement (DEIS) for the Jordan Cove Energy and Pacific Gas Pipeline Project and the final public interest determination that will be made with respect to export of natural gas from Coos Bay, Oregon.

CSE is non-profit public interest advocate for a transition to a carbon-free, sustainable economy. The Jordan Cove and Pacific Gas Pipeline proposal represents a significant threat to the safety, economic well being, and environmental quality of our members who use and enjoy the affected coastal wetlands that will be impacted by the Jordan Cove Liquefaction plant as well as forests, rivers, fish and wildlife that will be impacted all along the route of the Pacific Connector Gas Pipeline. Our members will also be harmed by the project's contribution to increased greenhouse gas emissions (GHG) and their far-reaching impacts on the global and regional climate.

For the reasons set forth below, we believe the DEIS contains significant omissions, unwarranted assumptions, and faulty reasoning that render it facially inadequate as a basis for decision-making. As such, it does not meet the terms of the Department of Energy's Office of Fossil Energy (DOE/FE) Conditional Order (3413) Granting Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel.¹ Moreover, even in its present, incomplete state, the DEIS

¹ Department of Energy, Office of Fossil Energy (DOE/FE). 2014. Jordan Cove Energy Project, L.P. FE Docket No. 12-32-LNG. Conditional Order Granting Multi-Contract Authorization to Export Liquefied

CO31

CO31 Sustainable Economy, H. John Talberth

CO31-1 Comment noted.

CO31-1

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

CO31 Continued, page 2 of 10

paints a grim portrait of significant and long term environmental and social harm and scant evidence of public benefit. This imbalance will only be made worse as the DEIS is remedied to document additional deleterious impacts. Because of this, the DOE cannot make a positive final determination that this project is in the public interest. Instead, Order 3413 must be rescinded. Our comments are provided below:

CO31-1
continued

Comments on the DEIS

1. The DEIS analysis of greenhouse gas emissions, climate change, and responsive mitigation measures is seriously deficient.

The Jordan Cove Energy and Pacific Gas Pipeline Project (Proposed Action) is designed to increase the extraction, transport, liquefaction, and final consumption of natural gas. Greenhouse gas emissions (GHG) associated with this process will be substantial, and the contribution of anthropogenic GHGs to global climate change is undisputed. Also undisputed are the potential catastrophic impacts of climate change on society, the economy, and the environment in Oregon and across the globe. Because of this, the analysis of GHG emissions associated with federal projects is firmly embedded in the regulatory framework, as is the duty to disclose mitigation measures that reduce overall GHG emissions.² Judged by this regulatory standard, the DEIS analysis is seriously deficient.

The DEIS analysis of GHG emissions appears in Section 4.12.1.³ This section reports GHG emissions associated with construction (65,144 metric tons CO₂-e) and operation (2,100,753 metric tons CO₂-e/yr) of the Jordan Cove Energy and Pacific Gas Pipeline facilities and infrastructure. Emissions associated with operation could make the project the largest single source of GHG emissions in Oregon.⁴ A potentially greater source of GHG emissions will be associated with induced natural gas production upstream and combustion of natural gas downstream that would otherwise stay put in the ground. The GHG effects of this “induced” production and consumption of natural gas are excluded from consideration in the DEIS. In particular, the DEIS states “induced or additional natural gas production is not a ‘reasonably foreseeable’ indirect effect of the Project, and is not addressed in this NEPA document.”⁵

CO31-2

The problem is that in its public interest finding supporting Order 3413, DOE/FE cites induced production as one of the major economic benefits of the Proposed Action and, in fact, presents quantitative analysis in support of this conclusion. According to Order 3413:

CO31-3

Jordan Cove identifies direct economic contributions to four domestic industries, including interstate natural gas pipeline transportation, natural gas extraction, natural gas

Natural Gas by Vessel from the Jordan Cove LNG Terminal in Coos Bay, Oregon to Non-Free Trade Agreement Nations. DOE/FE Order 3413, March 24th, 2014.

² See, e.g. Council on Environmental Quality. 2014. Revised Draft Guidance for Federal Departments and

³ DEIS at 1-49: “Our analysis of CO₂ emissions can be found in section 4.12.1 of this EIS.”

⁴ Sickinger, Ted. 2014. “Jordan Cove LNG in Coos Bay could quickly become one of the largest greenhouse gas emitters in Oregon.” Oregon Live, 11/18/14, available online at:

http://www.oregonlive.com/business/index.ssf/2014/11/jordan_cove_lng_in_coos_bay_co.html.

⁵ DEIS at 1-21.

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

CO31 Continued, page 3 of 10

CO31-4 Text has been revised to address this comment.

exploration and development (E&D), and state and local government activities attributable to state gas severance taxes. These direct impacts are calculated in terms of the value of each industry's economic output *over what it would have been without the exports*. IMPLAN economic modeling is used also to calculate domestic secondary economic impacts, both indirect and induced. In summary, Jordan Cove states that the Upstream Contributions Study shows that the demand on upstream industries from the Jordan Cove exports will contribute an average of \$3.9 billion in direct, indirect, and induced annual outputs and will create an annual average of 20,359 new jobs (italics added).⁶

CO31-3
continued

Thus, Secretary's assertion that induced natural gas production is not a reasonably foreseeable impact is in direct contradiction with facts presented in the project record. The environmental and social impacts of induced production, including impacts on GHG emissions, must be addressed in this EIS process in a manner at least as thorough and quantitative as the treatment of economic benefits of this induced production presented by Jordan Cove in its DOE/FE filings.

The second major flaw in the DEIS's treatment of GHG emissions is the total failure to discuss mitigation. Mitigation for GHG emissions is not contained in any of the mitigation measures proposed for federal or non-federal lands.⁷ NEPA regulations are explicit in their requirements with respect to mitigation. In particular, each EIS must contain a section analyzing the environmental consequences of the proposed action and its alternatives, including "[m]eans to mitigate adverse environmental impacts."⁸ As a significant adverse environmental impact associated with the Project, GHG emissions and their role in exacerbating climate change must be addressed by appropriate mitigation measures. This requirement has been underscored by CEQ in its latest guidance with respect to GHG emissions and NEPA. In particular:

CO31-4

Mitigation is an important component of an agency's considerations under NEPA, and this is no less true as it pertains to climate change. Mitigation, by definition, includes considering the avoidance of the impacts, minimizing them by limiting them, rectifying the impact, reducing or eliminating the impacts over time, or compensating for them. Consequently, agencies should consider reasonable mitigation measures and alternatives as provided for under the existing regulations to lower the level of the potential GHG emissions.⁹

2. The DEIS fails to analyze the impacts on fire risk and wildland fire management.

The Pacific Gas Pipeline (PGP) component of this project will traverse 150.1 miles of fire-adapted forest ecosystems.¹⁰ The dry summer climate of southwest and south central Oregon spawns frequent fires caused both by humans and ignited naturally by lightning. Fires are integral to the ecological health of forests in this region. As noted by the Klamath Bird Observatory, "[t]he mosaic of structurally diverse mixed-conifer hardwood forests in

⁶ DOE/FE 2014, Note 1 at 24.

⁷ DEIS at 2-51 to 2-70; DEIS at 2-74 to 2-75.

⁸ 40 CFR §1502.14(f).

⁹ CEQ 2014, Note 2 at 77828.

¹⁰ DEIS at 4-449.

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

CO31

Continued, page 4 of 10

CO31-5

Creating a 200-foot wide plus clearing for the length of the project in order to create a more effective firebreak is outside the scope of the FERC analysis. The DEIS describes the possible effects of the project on wildfire in section 4.13.9.1.

southwestern Oregon was historically maintained by frequent mixed-severity wildfires.¹¹ But aggressive fire suppression over the past century has jeopardized their health, and extent. As fire ecologist James Agee notes, “[t]he more intensely we have protected the forest from fire, insects, and disease, the worse many of our problems have become.”¹² Suppression of beneficial fires that helped regenerate trees, reduce competing vegetation, and control insects and disease have greatly altered forest structure and increased susceptibility to high intensity fires because of the buildup of fuels that would otherwise have been burned off regularly. Some fire-adapted forest types are disappearing altogether. For example, with respect to Oregon White Oak Forest, the DEIS notes that “[t]his forest type is a highly desirable wildlife habitat that has been decreasing as a result of fire suppression.”¹³

In response, federal and state forest managers have developed regional and forest-specific plans and policies that depend heavily on reintroduction of beneficial fires into these areas. For example, the Southwest Oregon Interagency Fire Management Plan recognizes the ecological benefits of fires and includes direction to “[u]se prescribed fire and unplanned natural ignitions considered the Use of Wildland Fire (UWF) for Resource Benefit to obtain and enhance the ecological attributes of the area.”¹⁴ The Pacific Gas Pipeline component will greatly complicate, and conflict with this management goal.

The DEIS clearly acknowledges that the PGP will complicate wildland fire management: “[t]he pipeline project would create fire suppression complexity by creation of a continuous corridor of early seral plant communities.”¹⁵ Yet the DEIS does not elaborate on what these complexities will be or how they can be mitigated. NEPA regulations are explicit in the need to identify management conflicts and how they can be resolved. In its NEPA guidance, CEQ states “the EIS must acknowledge and describe the extent of those conflicts. If there are any possibilities of resolving the conflicts, these should be explained as well.”¹⁶

CO31-5

The PGP presents a host of conflicts with federal wildland fire management. First is the elevation in fire risk associated with brushy (early seral) vegetation in the pipeline corridor and the potential for gas leaks and explosions from the pipeline and surface facilities igniting new fires. By clearing a 30-foot corridor of fire-adapted forest and replacing it with highly flammable brush and dry grasses, the PGP will increase the risk of fast moving wildfires. This issue was summarized most succinctly by former Coos County Commissioner Fred Messerle, who stated in 2010 that “[a]n open vector (right of way) with dry grass and brush creates a path for fire to ‘run

¹¹ Klamath Bird Observatory. 2012. Decision Support Tool. Mixed-conifer Hardwood Forests. Version 1.7. Ashland, Oregon: Klamath Bird Observatory.

¹² Agee, James. 1997. “Fire Management for the 21st Century.” In Kathryn Kohm and Jerry F. Franklin, eds. *Creating a Forestry for the 21st Century: The Science of Ecosystem Management*. Washington, DC: Island Press.

¹³ DEIS at 4-446.

¹⁴ USDA Forest Service, Rogue River-Siskiyou National Forest, Bureau of Land Management, Medford District, Oregon Department of Forestry, Southwest District, National Park Service, Oregon Caves National Monument. 2013. Southwest Oregon Interagency Fire Management Plan. Available online at: <http://www.fs.usda.gov/detail/rogue-siskiyou/home/?cid=stclprdb5314299>.

¹⁵ DEIS Table 2.1.4-1 at 2-59.

¹⁶ Council on Environmental Quality. Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations. Section 23a. 46 FR 18026 (March 23, 1981 as amended).

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

on.¹⁷ This means an increase in fire hazard exposure and risk in currently high timber production areas.¹⁸ In light of this, FERC's assertion that the corridor would serve as a fuel break is absurd.¹⁹ In fact, the corridor fails to even come close to minimum standards for fuel breaks endorsed by federal and state agencies and forest research institutions. To be effective, minimum widths of shaded fuel breaks are recommended to be over 200 feet in the drier parts of Oregon and Washington, and even larger in wetter areas where trees grow taller. Constant maintenance is needed to reduce, not foster, the growth of flammable brush.²⁰

CO31-5
continued

A more significant source of elevated fire risk will be associated with explosions. Natural gas pipelines are prone to explosive fires. The list of pipeline accidents and explosive fires along gas pipelines has been monitored and published regularly, and includes a grim list of accidents causing extreme loss of life, property, and fires.²¹ Indeed, the DEIS identifies 1,237 such incidents between 1994 and 2013 from the national PHMSA Serious Incidents files maintained by the Department of Transportation. The DEIS is silent on this reasonably foreseeable consequence of the PGP. NEPA regulations define "reasonably foreseeable" impacts to include impacts that have catastrophic consequences, even if their probability of occurrence is low.²² Moreover, federal agencies managing forests along the route of the proposed PGP have sophisticated models that can be used to develop and analyze the consequences of a number of fire scenarios – such as a natural gas pipeline explosion under red flag warning conditions. In light of this, the DEIS should not have been limited to making passing references to pipeline explosions elsewhere, but instead should have analyzed the consequences of one should it occur along the PGP route.

CO31-6

The second major complication that the PGP presents to wildland fire management is the limitations imposed on use of beneficial fire. As noted above, federal and state forest management agencies in the PGP rely on restoring natural fire regimes to enhance ecological attributes of forests suffering from the adverse consequences of overly exuberant fire suppression over the past century. The PGP will reverse this trend by requiring additional suppression activities in places where policy calls for letting natural or, in some cases, human-caused fires to burn. Additional suppression will be required to protect surface facilities, but also to protect the underground pipeline from fires that burn along root systems deep beneath the ground. This conflict is neither noted nor discussed anywhere in the DEIS.

CO31-7

A third complication will involve hindrances to suppression activities. Underground pipelines complicate suppression activities because they limit the ability of responders to dig fire lines in

¹⁷ As quoted in Jody McCaffree, 2014. Surrebuttal comments on Coos County Pacific Connector Gas Pipeline application file number HBCU-13-06.

¹⁸ This assertion is often quoted in the DEIS. See, e.g. Table 2.1.4-1 at 2-59: "Construction of the pipeline and associated activities would remove both mature and developing stands and would increase fire suppression complexity however the corridor also provides a fuel break."

¹⁹ See, e.g. Bennett, Michael, 2010. Reducing Fire Risk on Your Forest Property. Pacific Northwest Extension Publication PNW 618. Oregon State University, University of Idaho, and Washington State University.

²⁰ See, e.g. the Wikipedia updated list of pipeline accidents in the US since 2000: http://en.wikipedia.org/wiki/List_of_pipeline_accidents_in_the_United_States_in_the_21st_century.

²¹ 40 CFR § 1502.22 (b) 1.

CO31 Continued, page 5 of 10

CO31-6 As stated in the DEIS, pipeline explosions are uncommon. See table 4.13.9.3-1 for a summary of injuries and fatalities in the five-year period between 2009 and 2013. See table 4.13.9.3-2 for accidents.

CO31-7 As stated in the DEIS, surface fires or canopy fires would not affect buried pipelines. The number of new aboveground project features proposed for this project are too few to affect the use of controlled fire.

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

CO31

Continued, page 6 of 10

the face of encroaching fires. This complication has indeed manifested in many other places, and there is no reason to expect that it would not manifest along the PGP route as well.²²

CO31-7
continued

3. The DEIS does not analyze the environmental impacts of alternatives.

At the heart of NEPA is the duty to analyze the environmental impacts not only of the Proposed Action but a range of reasonable alternatives. In particular, agencies must “[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.”²³ Yet for most issues addressed by the DEIS, the only alternative considered in any detail is the Proposed Action.

CO31-8

For example, in discussing the impacts of the Proposed Action on the types of land uses affected by construction and operation of the Jordan Cove Liquefaction facility, the DEIS only presents the acreage affected by the Proposed Action and fails to present how that acreage would differ under the various Coos Bay Terminal Alternatives discussed in Section 3.3.2.²⁴ As another example, the environmental impacts of the PGP on wildlife habitat types and species were only discussed in detail for the Proposed Action and not for any of the alternatives identified in Section 3.4.2.²⁵

4. The DEIS does not meet NEPA requirements for analysis of offsite mitigation.

To reduce overall environmental impact the Proposed Action relies extensively on offsite mitigation measures. As explained in the DEIS, “[a]n extensive offsite mitigation program on BLM and NFS lands is included in the Proposed Action to ensure that the objectives of the affected land management plans are achieved.”²⁶ Offsite mitigation is also being proposed as a means to compensate for the loss of wetlands associated with the Jordan Cove facility.²⁷ However, the DEIS also acknowledges that these mitigation measures are far from certain. With respect to Bureau of Land Management (BLM) and National Forest Service (NFS) land, the DEIS acknowledges that “[m]any of the projects listed in table 2.1.4-1 lack the site-specific surveys needed for implementation and, as a result, are not ripe for decision at this time.”²⁸ With respect to wetland mitigation, the DEIS acknowledges that Jordan Cove’s proposed compensatory wetland mitigation plan is deficient and has not been approved by either the Army Corp of Engineers (COE) or the Oregon Division of State Lands (ODSL) – agencies that have direct regulatory oversight over wetland fills and mitigation.²⁹

²² This point was illustrated well in a wildfire near a natural gas line in Mississippi last month: <http://www.msnnewsnow.com/story/27979484/exclusive-wildfire-burns-dangerously-close-to-natural-gas-pipeline>.

²³ 40 CFR § 1502.14.

²⁴ DEIS at 4-5 and 4-6.

²⁵ DEIS at 4-507 to 4-510.

²⁶ DEIS at 2-51.

²⁷ DEIS at 4-409 and 4-410.

²⁸ Id.

²⁹ DEIS at 4-410.

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

CO31

Continued, page 7 of 10

CO31-9

The BLM would need to issue a right-of-way grant before the applicant could begin work on federal land. The right-of-way grant would require mitigation. It would have the legal authority to insure that the mitigation is funded and that the required stipulations and BMPs are implemented. In regard to the comment on thinning to accelerate late successional structure, the BLM and Forest Service have more than two decades of experience with thinning to enhance habitat and this is backed by research on stand development.

Despite the uncertainty over mitigation, major segments of the DEIS and its conclusions rely on the assumption that offsite mitigation will be implemented, and effective. For example, in its conclusions with respect to impacts on vegetation and timber on federal lands, FERC concludes, "with the assistance from Pacific Connector, BLM and Forest Service would develop projects on federal lands to compensate for impacts associated with proposed amendments to their LMPs. Many of these projects would benefit forest health and contribute to the development of LSOG forest...". These projects are the ones listed in Table 2.1.4-1. With respect to wetlands, the DEIS assumes that mitigation will be implemented and effective and thus contains no actual analysis of the impacts associated with the loss of 38 acres of natural wetlands affected by construction activities and another 35.6 acres permanently affected by facility operation. Instead, FERC simply concludes that "Jordan Cove would follow the measures in its *Project Compensatory Wetland Mitigation Plan*, including the creation of 7.5 acres of eelgrass in Coos Bay, and the reestablishment of tidal flow to 43.3 acres at the Kentucky Slough site to mitigate for the loss of estuarine wetlands."³⁰

The assumptions of full implementation and efficacy are impermissible under existing regulations. CEQ guidance in this respect is unambiguous: "[a]gencies should not commit to mitigation measures considered and analyzed in an EIS or EA if there are insufficient legal authorities, or it is not reasonable to foresee the availability of sufficient resources, to perform or ensure the performance of the mitigation."³¹ Here, the term "commit" refers to the assumption of full and effective implementation. FERC does not have sufficient legal authorities to ensure implementation of mitigation measures on BLM or NFS lands or on jurisdictional wetlands regulated by COE or ODSL. Moreover, even if FERC did have this authority or secure binding commitments from other agencies to enforce them, the efficacy of the proposed mitigation measures cannot be assumed to be beneficial. Scientific uncertainty must be recognized where it exists.³²

Case in point is the 6,600 acres of thinning treatments planned for BLM and NFS lands ostensibly to improve habitat for the northern spotted owl, accelerate the restoration of late successional and old growth (LSOG) forests, and reduce fire risk.³³ There is significant scientific uncertainty about the actual impacts of such treatments. In fact, scores of scientific studies and monitoring data on the ground provide evidence that thinning treatments will, in fact, be detrimental to the owl and its habitat and exacerbate not reduce fire risk.³⁴ Yet FERC's

CO31-9

³⁰ DEIS at 5-9.

³¹ Council on Environmental Quality (CEQ), 2011. Memorandum for Heads of Federal Departments and Agencies: Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact.

³² 40 CFR § 1502.22 (b) 1.

³³ Details of these planned treatments appear in the DEIS at Table 2.1.4-1, pages 2-60 to 2-61.

³⁴ In particular, "[s]potted owls nest and roost in forests with high canopy closure, large trees, large woody debris, and vertical and horizontal diversity in stand structure, (Thomas et al. 1990) all characteristics that thinning and logging will affect negatively. From: DellaSala, Dominick, Robert G. Anthony, Monica L. Bond, Erik S. Fernandez, Chris A. Friswell, Chad T. Hanson and Randi Spivak. 2013. "Alternative views of a restoration framework for federal forests in the Pacific Northwest." *Journal of Forestry* 111(6): 420-429.

20150213-5222 FERC PDF (Unofficial) 2/13/2015 3:03:53 PM

assumption is to the contrary and leads the agency to conclude that these treatments will be unequivocally beneficial.

CO31-9
continued

Another flaw in FERC's consideration of offsite mitigation is the failure to analyze mitigation alternatives, including an alternative that excludes mitigation measures altogether.³⁵ Again, NEPA regulations are explicit in a federal agency's duty to analyze mitigation alternatives in an EIS.³⁶ Instead, the DEIS assumes an identical set of mitigation measures for each action alternative considered. For example, the same suite of projects for mitigating the impacts on late successional forests is considered for each alternative despite their scientific uncertainty.³⁷ This subverts the ability of the DEIS to inform the public and decision makers about the environmental impacts – both beneficial and adverse – associated with mitigation. This is why BLM NEPA guidance is explicit in this regard: "[t]he NEPA document should analyze the proposal with and without offsite mitigation in at least two separate alternatives and in light of the best available science."³⁸

CO31-10

5. The financial efficiency analysis omits significant public costs.

The DEIS incorporates a financial efficiency analysis to quantify the impacts of the PGP on federal finances.³⁹ The analysis identifies two sources of direct government revenue: 1) Pacific Connector's payment for timber that would need to be cut, and 2) Pacific Connector's rental payments for construction access and the pipeline right-of-way. The analysis also identifies three sources of government costs, including: 1) the value of lost timber productivity along the new right-of-way, 2) the value of non-merchantable trees that would need to be cut prematurely (lost timber growth), and 3) the incremental cost of future maintenance for existing roads that Pacific Connector may upgrade above their existing federal maintenance level. Based on this analysis, the DEIS concludes that the PGP would have a net present value of \$5.24 million in 2010 dollars.

CO31-11

This financial efficiency analysis excludes significant public costs and public financial risks. Public costs associated with the numerous land and resource management planning activities, agency consultations, and permitting needed to accommodate the project are conspicuously absent. Public costs associated with an increase in management requirements are also excluded. For example, the PGP will necessitate an increase in public agency fire suppression and response costs. The DEIS asserts that the PGP "would not significantly increase fire suppression costs," but there is no analysis to support this conclusion.⁴⁰ In fact, suppression costs will soar in segments of the pipeline where surrounding forests are currently managed for natural beneficial fires that would otherwise be free to burn.

³⁵ See also comments presented in Section 3, above.

³⁶ 40 CFR § 1502.14 (f).

³⁷ DEIS at 3-64.

³⁸ USDI Bureau of Land Management, September 30th, 2008, Instruction Memorandum on Policy for the Use of Offsite Mitigation. Available online at: http://www.blm.gov/wc/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2008/IM_2008-204.html.

³⁹ DEIS at 4-832.

⁴⁰ DEIS at 4-991.

CO31 Continued, page 8 of 10

CO31-10 As stated in the DEIS, the mitigation measures listed in Chapter 2 would undergo NEPA analysis prior to implementation. See section 2.5.2 for a discussion of the proposed mitigation, possible changes, and future analysis.

CO31-11 The financial efficiency analysis addresses the net present value that would accrue to the federal government as a result of construction and operation of the pipeline project. As stated in section 4.9.3.1, it follows the direction contained in the Forest Service Handbook. It is not intended to cover all costs and benefits. There is no evidence that fire management cost "will soar" as the comment asserts. The buried pipe is not at risk from surface fires and would have little effect on management costs other than perhaps providing additional access for management of a fire. Also, see the response to your previous comment on fire costs. The Commission will conduct an analysis of the economic impacts of the project prior to making a decision.

A more significant gap in the financial efficiency analysis is the exclusion of an estimate of financial and economic risk associated with catastrophic explosions, wildfires, and emergency response. There are well known techniques for translating such risks into financial and economic analysis that entail assigning probabilities to catastrophic events of a certain magnitude, fully describing the public financial risks and economic costs associated with those events, converting this information into an annualized expected value stream, and discounting back to the present to obtain present value figures.⁴¹ Understanding the magnitude of financial and economic risks associated with the Proposed Action is a critical factor in determining whether or not the Proposed Action is in the public interest. Despite this, the DEIS fails to quantify these financial or economic risks at all for either the PGP or Jordan Cove components of the Proposed Action.

CO31-11
continued

Comments on the DOE/FE Public Interest Determination

The Department of Energy's Office of Fossil Energy (DOE/FE) initial authorization and public interest finding with respect to the Jordan Cove Energy Project was conditional on completing an adequate EIS. As DOE/FE stated clearly in the context of order 3413, "[t]he authorization granted by this Order is conditioned on Jordan Cove's satisfactory completion of the environmental review process under NEPA in FERC Docket Nos. CP13-483-000 and CP13-492-000, and on issuance by DOE/FE of findings of no significant impact or a record of decision pursuant to NEPA. Additionally, the authorization is conditioned on Jordan Cove's on-going compliance with any and all preventative and mitigative measures at the Jordan Cove Terminal imposed by federal or state agencies."⁴²

For the foregoing reasons, it is clear that Jordan Cove has not yet met this standard and will not if the DEIS in its present form is adopted. Moreover, and as we have discussed with respect to offsite mitigation, it is unreasonable to assume that all preventative and mitigative measures will be implemented and effective under current arrangements specified by the DEIS. However, even if the DEIS was remedied and binding commitment to implement effective mitigation measures secured, it is clear that the DEIS paints a grim picture of environmental harm to Oregon and little if any net economic benefit.

Oregonians will be left with a grim legacy of catastrophic disaster risk, increased fiscal and economic costs, fragmented or permanently degraded habitat for wildlife and fish, scenic landscapes marred by the pipeline corridor and confiscated private properties all for the benefit of natural gas producers in Canada and Asian consumers.

⁴¹ See, e.g. Jonkman, S.N., P.H.A.H.M van Gelder and J.K. Vrijling. 2003. "An overview of quantitative risk measures for loss of life and economic damage." *Journal of Hazardous Materials* A99(2003) 1-30; See also, Abrahamsen, E.B., T. Aven, J.E. Vinnem, and H.S. Wienscke. 2004. "Safety management and the use of expected values." *Risk Decision and Policy* 9: 347-357.

⁴² Department of Energy, Office of Fossil Energy (DOE/FE). 2014. Jordan Cove Energy Project, L.P. FE Docket No. 12-32-LNG, Conditional Order Granting Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Jordan Cove LNG Terminal in Coos Bay, Oregon to Non-Free Trade Agreement Nations. DOE/FE Order 3413, March 24th, 2014.

20150213-5222 FERC PDF {Unofficial} 2/13/2015 3:03:53 PM

CO31 Continued, page 10 of 10

DOE/FE has agreed to a reconsideration of its public determination after the environmental review process is complete. "[w]hen the environmental review is complete, DOE/FE will reconsider its public interest determination in light of the information gathered as part of that review."⁴³

In light of the overwhelming evidence presented by the DEIS, there is no basis whatsoever for issuing a final public interest determination. Instead, Order 3413 should be rescinded.

Sincerely,



H. John Talberth, Ph.D.
President, Center for Sustainable Economy
16869 SW 65th Avenue, Suite 493
Lake Oswego, OR 97035-7865
(503) 657-7336

⁴³ Id. at 141.

20150213-5242 FERC PDF (Unofficial) 02/13/2015

SENECA JONES  TIMBER COMPANY

February 13, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20428

**Re: FERC PREFILING DOCKET NO. PF12-17 & PF12-7
JORDAN COVE & PACIFIC CONNECTOR GAS PIPELINE**

Dear Ms. Bose:

We appreciate the opportunity to comment on such an important project with wide-spread ramifications, both directly and indirectly. The Pacific Connector Gas Pipeline (PCGP) will cover 231.8 miles and although a significant portion is sited on public land (32%), the majority of the proposed project impacts hundreds of private landowners' property by the permanent installation of an underground pipeline. Seneca Jones Timber Company (SJTC) is one of these stakeholders and 1.6% of the pipeline project is sited on our land. A project, if determined to benefit the public interest, should clearly be sited on public land whenever possible. Three areas on our property are within 500' of public land and relocating these areas to public property could reduce the impact to SJTC land by 30%.

The Forest Practices Act governs forestry operations for the private timber industry. Periodic reviews are conducted by the Oregon Department of Forestry to ensure that we operate within these rules and procedures to protect Oregon's natural resources; such as restocking harvested forests, protecting riparian areas, streams, wildlife, and avoiding activities on steep ground that potentially can lead to landslides.

On the other hand, the government manages their forest lands under their own specific set of rules to protect resources, which are not subject to periodic reviews by an independent party. Throughout the DEIS these management practices are set aside and waivers are being provided. We are observing various government agencies allowing pipeline activities to occur in sensitive areas and the primary discussion topic is mitigation.

For over sixty years, the timber industry and the government have entered into access agreements to provide mutual utilization of transportation systems. In the past, both parties possessed wide latitude to build transportation systems across each other's property. Today, due to environmental concerns, the construction of new roads on public land is virtually impossible and deemed as ground disturbing

POST OFFICE BOX 10255 • EUGENE, OREGON 97440 • 541/683-1231 FAX 541/461-6222

CO32

CO32-1

CO32-2

CO32

Seneca Jones Timber Company, Monica Jelden

CO32-1

Comment noted.

CO32-2

Site-specific amendments to certain portions of LMPs have been proposed by the BLM and Forest Service to make provision for the PCGP project, and are currently undergoing public review. These proposals are consistent with Agency guidance concerning natural gas pipelines. Mitigation is an important discussion since the BLM has the authority to request compensatory mitigation in granting rights of way in order to ensure that objectives set forth in land management plans can be met.

20150213-5242 FERC PDF (Unofficial) 02/13/2015

Letter to Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
February 13, 2015
Page Two

activities. The ardent process is so difficult, we seldom make such a request and explore whatever other alternatives might be available, despite increased cost and potentially greater environmental concerns. While the industry has a long standing cooperative relationship with both the Bureau of Land Management (BLM) and Forest Service (FS), Jordan Cove and PCGP are essentially new entities, however, these public agencies are modifying their management plans to accommodate the project, including the allowance of injury to sensitive species and sites. One example cited in the DEIS under 4.5.2.2 indicates that blasting will be allowed within Northern Spotted Owl nest patches and buffers without application of seasonal timing restrictions. Another area within the DEIS indicates that the BLM will allow a site-specific exemption to protect Marbled Murrelet Habitat on various BLM districts. When the government has discretion, they would not offer this level of latitude to the timber industry, their own neighbors. This leads to significant disparity on what one specific "for profit private industry" can construct on public lands, while a transportation system proposal of this length (or any length for that matter) would be received by the timber industry with a resounding "no", particularly if injury to wildlife habitat and/or streams were negatively impacted.

In addition to the direct installation of the pipeline, our property will receive further impacts by what the PCGP calls temporary extra work areas (TEWAs). TEWAs come in two types, one is an area to mobilize equipment and conduct construction work, while the other is a rock fall area. On steep slopes, PCGP is anticipating that rock falling could be a concern that needs addressing given soil conditions and topology. Although, we have not provided PCGP direct authorization to survey our property, they have identified six TEWA areas located on our land as having very steep slopes. Human safety is a significant concern in these areas deemed rock fall TEWAs.

The placement of gas pipelines located on forest properties requires the timber industry to employ atypical harvest methods, as characteristically the gas pipeline is located on the same ridge line in which a forest landowner wants to place its equipment or construct access. Topographical features, such as soils and slopes, can limit the number of viable equipment sites. In many cases, only one location may be available and/or feasible. Finding new alternatives can be costly to a business that has deep roots in Oregon.

Gas pipeline installers are extremely reluctant to allow forest yarding operations and/or the hauling of heavy equipment across underground gas lines. PCGP requests that landowners identify alternatives or determine in advance potential

CO32-3

CO32-4

CO32-5

CO32 Continued, page 2 of 6

- CO32-3 The BLM and Forest Service review requests for permits and rights of way in the same way regardless of who submits them. The requirements of any particular authorization may be different depending on the proposal, and on the governing laws and regulations that apply to it.
- CO32-4 Access to the pipeline construction right-of-way during active construction would be controlled by the pipeline construction contractor. Generally, only the construction work crews would be working in potentially hazardous locations within the construction right-of-way. Worker safety, including within potentially hazardous areas, would be the responsibility of Pacific Connector and the pipeline construction contractor.
- CO32-5 Comment noted. This information has been added to the FEIS.

20150213-5242 FERC PDF (Unofficial) 02/13/2015

Letter to Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
February 13, 2015
Page Three

crossing locations in order to bolster these areas. Our timberland and access routes are significantly affected in a search for alternative solutions, which come at a cost.

Most recently, we put a harvest unit up for bid that contained a gas pipeline within the unit. We received bids from independent contractors in excess of 300% higher than a typical logging bid for similar equipment and topography. Even in a good lumber market, the profit margin on this area of timber was significantly and detrimentally impacted as a result of a placement of a gas pipeline.

In Oregon, the historical impact of mill closures and loss of timber related jobs is largely attributable to reduced harvest levels on public lands. In some ways, PCGP's plans will increase timber supply availability and the employment of local independent contractors, albeit briefly. Construction and pipeline installation will occur over a course of one year, maybe two. These activities in such a short timeframe:

- Generate significant timber volumes entering the market quite rapidly; potentially affecting log market values in a negative way, due to a temporary and interim glut of logs on the market.
- Require significant contractor manpower to accommodate this project in an expeditious manner, while the forest industry may have to be more competitive to acquire contractors to complete their needs, at an increased cost.
- Increase the traffic load on forest roads built to sustain occasional use by logging equipment. Generally roads are maintained according to upcoming needs. In some cases roads proposed for use may not be at current standards to support PCGP traffic loads for slash and timber removal, heavy equipment and piping dimensions. This traffic may interfere with the timber industry's current plans and specifications. We recommend that PCGP be required to participate in a cooperative road maintenance program prior to use to ensure the transportation system is viable and PCGP's use thereof will effectively manage sedimentation and run-off issues in accordance with the Oregon Forest Practices Act.
- Construction of the pipeline will create significant ground disturbing activities. While much of the excavated material will be returned to

CO32 Continued, page 3 of 6

20150213-5242 FERC PDF (Unofficial) 02/13/2015

Letter to Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
February 13, 2015
Page Four

surface the pipeline, significant portions will require creation of "waste areas" in stable areas. Stable areas suitable for waste sites are extremely limited in the forest. With PCGP utilizing these sites, there will be fewer waste area sites available for industry, creating additional cost. Although, we have not provided PCGP direct authorization to survey our lands, four waste site areas are identified on our property, which will likely require us to haul our own waste material to a site further away increasing our own costs.

Once the pipeline is installed, PCGP proposes reestablishing the surface with grass and providing a minimum level of maintenance every three to five years. In Oregon we have an excellent growing capacity; pipeline corridors quickly become brushy areas with a high level of invasive species, such as scotchbroom and blackberries. During the dry season, these grasses and brush varieties can contribute a significant slash component that will be susceptible to forest fires. Fire behavior in these types of fuel loads can spread quickly and will put stakeholders' investments at additional risk.

Exposed utility right-of-ways in the magnitude proposed by PCGP effectively encourage off highway vehicle traffic and year round public entry into private forest lands. Unwanted traffic can lead to sedimentation issues and increased risk of fire on adjacent timberland investments. We suggest that the final EIS address alternatives to limit unwanted access across the pipeline for concerns related to public safety, environmental damage potential, and increased risk of fire on the slashy areas described above.

As a forest landowner, our experience with catastrophic wildfires clearly demonstrates that scorching of subsoils can occur to depths as much as three feet, along with retainage of significant temperatures in these soils. To suppress fire, often times heavy equipment is utilized to dig and turn over soils to adequately distribute the heat and suppress the fire. These normal suppression efforts will be impeded with the placement of a gas pipeline and increase risks to fire suppression personnel. PCGP's response is that forest fires on the ground surface are not a direct threat due to the insulating effects of soil cover on the pipeline and there are no increased risks or costs in fire suppression efforts in the vicinity of the pipeline. The risk of fire is a serious concern to all forest landowners and we recommend that the EIS reference any scientific studies that support and validate PCGP's claims. As a contributor to the risk of fire, we would ask that PCGP be held accountable as part of the solution to mitigate that risk. Construction of ponds and pump chances periodically along the route could

CO32-6

CO32-7

CO32-8

CO32 Continued, page 4 of 6

CO32-6 Comment noted. The potential for the Pacific Connector pipeline to contribute to wildfire risk is discussed in section 4.5.1.2 of the EIS. To reduce potential impacts related to possibility of wildfire, Pacific Connector has prepared and would implement a Fire Prevention and Suppression Plan, included as part of its Plan of Development (see section 2.1.6 of the EIS). In addition, as part of the proposed action, Pacific Connector would fund various mitigation projects on federal lands which would include numerous fire suppression efforts (see section 2.1.4 and 4.1.3 of the EIS).

CO32-7 OHV avoidance measures are included in the DEIS, see section 4.10.2.5. The landowner has the option to require additional barriers on its land as part of the easement.

CO32-8 Comment noted. The potential for the Pacific Connector pipeline to contribute to wildfire risk is discussed in section 4.5.1.2 of the EIS. To reduce potential impacts related to possibility of wildfire, Pacific Connector has prepared and would implement a Fire Prevention and Suppression Plan, included as part of its Plan of Development (see section 2.1.6 of the EIS). The Fire Prevention and Suppression Plan includes requirements that Pacific Connector would coordinate with appropriate land owners and local fire districts to ensure that fire prevention and suppression activities consider pipeline safety. In addition, as part of the proposed action, Pacific Connector would fund various mitigation projects on federal lands which would include numerous fire suppression efforts (see section 2.1.4 and 4.1.3 of the EIS).

20150213-5242 FERC PDF (Unofficial) 02/13/2015

Letter to Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
February 13, 2015
Page Five

potentially provide a level of mitigation and additional water resources to aid in fire suppression.

PCGP admits that utilization of the pipeline will be in perpetuity and the infrastructure should last forever, provided the pipeline receives adequate maintenance, which is governed by the Code of Federal Regulations. On the other hand, PCGP readily admits that the useful life of a pipeline is 50+ years, while a typical energy provider contract is generally 30 years. The DEIS addresses if PCGP proposed to abandon the pipeline facility what processes are necessary to occur. It is important that there is no gap in maintenance and once utilization of the pipeline ceases, that appropriate reclamation procedures occur. To effectively remove liability from the underlying landowner this may require removal of the pipe itself. According to PCGP experts, reentry for removal of the pipe recreates additional environmental impacts and would be subject to a similar process as in the installation. The DEIS does not adequately discuss PCGP responsibilities regarding pipeline reclamation or the long term effects on private property if the pipe is left in the ground in perpetuity. Approval of a project of this magnitude should have a complete plan of reclamation, including returning the ground to its original condition in the event of any unforeseen occurrence, as well as operator bankruptcy. If the installation of the pipeline indeed has no negative effects to private property, we would encourage FERC to require PCGP to purchase the private property outright, pay the property taxes, and if they desire, attempt to resell the property on the open market.

SJTC remains supportive of projects that provide significant benefits to local communities in Oregon and we are proud of our ability to manage our forests responsibly with sustainability. From a socioeconomic perspective, we struggle to understand how the agencies associated with this project can support and elevate the position of a gas export facility, while adding cost somewhat discriminately to another business that has served Oregon for over 60 years in domestic markets.

We appreciate the opportunity to comment and provide our concerns regarding the socioeconomics and environmental resources impacted by this project. As a private landowner, our goal is to maintain an open dialogue with PCGP. In fact, we began our discussions with representatives of PCGP beginning in February of 2006. We remain optimistic that these continued discussions will bear fruit, in the words of PCGP *"The more we talk with each other, the better we can create a customized offer that fits your situation."*

CO32-8
Cont'd

CO32-9

CO32

Continued, page 5 of 6

CO32-9

Comment noted. NEPA does not require a detailed plan for events that would not occur for several decades. Technologies that may exist decades from now are not foreseeable.

20150213-5242 FERC PDF (Unofficial) 02/13/2015

Letter to Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
February 13, 2015
Page Six

Nine years later, we have significantly expanded our understanding about pipelines. This has taken an enormous amount of energy to ensure that the pipeline does not negatively impact our way of life, forest management. PCGP indicates that many of our concerns can be addressed via specific easement language that may resolve direct impacts, but does not address indirect impacts on third party transportation systems. Seneca Jones Timber Company provided PCGP counterproposal alternatives to attempt resolution, which remain unrequited. After nine years, all we have from PCGP is assurance that their intent is not to add cost to our business, or apologies for entering our property without permission. We hope that the next nine years will produce results that are more positive for both parties.

In support of Senator Wyden's request we would ask that the public comment period for the DEIS be extended for an additional 30 days. In his words, "A project of this size and scope certainly merits careful consideration."

Our own review shows that the DEIS acts as a summary of findings and if you stay apprised of all the information released by FERC, in many cases the details are many layers deep or not adequately transparent. We also see throughout the DEIS that PCGP still has many permits and processes yet to complete or in some cases, permits and/or authorization will be obtained either after pipeline construction or after FERC certification. These permits and processes should continue in advance of commencement of activities on their own merits without undue influence from other agencies.

Again, thank you for the opportunity to comment. We encourage you to make safety the number one priority in completing your assessment and setting guidelines as this project moves forward.

Sincerely,

SENECA JONES TIMBER COMPANY, LLC


Monica Jelden
Land Use Manager

cc: T. Payne R. Re
S. Weber D. Riddle
T. Reiss

CO32 Continued, page 6 of 6

- CO32-10 The 90-day period to comment on the DEIS was not extended past February 13, 2015.
- CO32-11 Comment noted.

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33

CO33

Our Children's Trust, Julia Olson



February 13, 2015

Federal Energy Regulatory Commission
Comments e-Filed via FERC Online

Re: FERC Draft Environmental Impact Statement for the Jordan Cove Liquefaction and Pacific
Connector Pipeline Projects (Docket Nos. CP13-483-000 and CP13-492-000)

To Whom It May Concern:

Global warming of Earth's surface and our oceans, the resulting climate destabilization, and the ocean's uptake of excessive carbon dioxide leading to their acidification is unequivocally caused by human activities (primarily fossil fuel carbon emissions) and has been and continues to be permitted, authorized, facilitated, funded, encouraged, incentivized and in other ways allowed by the United States government. As the 2014 National Climate Assessment report confirms, climate change is leading to an increase in extreme weather events, which are causing serious damage to American lives across the country, from record heat, to record flooding, to record droughts and wildfires, even with only .8-.9 ° C of surface warming over pre-industrial temperatures. Even more heat is stored in our oceans. Threats to our oceans, agriculture, water supplies, shorelines, forests, wildlife, homes, and communities increase every year our government fails to take significant science-based actions to address global climate change. Every decision made today implicating climate change and ocean warming and acidification needs to be evaluated in light of a national comprehensive climate recovery plan and the government's constitutional and public trust obligation to the citizenry, present and future.

We are confronted with an atmospheric emergency, and reducing carbon dioxide emissions to mitigate the disastrous impacts of climate destabilization and ocean acidification is one of the most urgent matters before the federal government currently. Timing and rates of emission reductions are critically important and must be in line with a national plan to achieve atmospheric health and climate recovery according to the best available science. Piecemeal regulatory and agency decisions that are not tied to defensible science-based standards for atmospheric, climate, and ocean restoration will never meet the urgent job of our time, and the

1

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 2 of 16

CO33-1 Evaluating gas pipeline project proposals is a specific duty of FERC and approval or denial of proposed projects is not an abrogation/violation.

most core function of government—to keep us safe and protect our lives, liberties, and property.¹ This project presents the classic “death by a thousand cuts” result of federal decision-making when made in a vacuum, in the absence of standards and a complete cumulative impacts analysis against that standard of protect. It is unlawful.

The proposed Jordan Cove Energy and Pacific Connector Gas Pipeline project (proposed project) would commit us to unleashing decades more greenhouse gas (GHG) pollution. Thus, approving the project would be an abrogation of the federal government’s public trust obligation and a violation of the People’s constitutional right to use essential natural resources, like air and water, without having those public resources substantially impaired. The project is an additional cumulative lethal threat to the rights of present and, especially, future generations to life and liberty. Unabated fossil fuel emissions, including those that will result from this project, and the consequent climate destabilization threatens the human race and numerous other forms of life on Earth.

CO33-1

We hereby incorporate the attached *Scientific Summary of Climate Change, Ocean Acidification, and Safe Concentrations of Atmospheric Carbon Dioxide*, all other attachments, and all hyperlinked documents into these comments and the administrative record for this project. If you require PDF or hard copies of any of the hyperlinked documents, please let us know and we will supply them; otherwise we will assume that FERC can access and include them in the record via the internet.

The FERC and Cooperating Agencies have Public Trust and Constitutional Obligations to Protect the Atmosphere and Create a National Climate Recovery Plan

1. According to the Public Trust Doctrine, which is embedded in our Constitution and other Founding Documents, and in the very sovereignty of our nation, U.S. citizens (both present and posterity) have a right to use and access sustainable trust resources for their life, liberty and property. That right belongs not just to present generations, but to Posterity (future generations) as well. Indeed they are the largest majority and the future of this nation.²
2. To uphold citizen’s rights, the United States government and state governments have fiduciary duties as trustees to manage and protect our country’s vital natural resources in trust for present and future generations of citizens.³ The FERC and all of the executive agencies

¹ See *A Climate of TRUST*, <http://www.ourchildrenstrust.org/trust-films/AClimateOfTRUST>.

² See Amicus Briefs on Behalf of Law Professors in Support of Youth Appellants and Petitioners before the D.C. Circuit and U.S. Supreme Court, *Alec L. v. McCarthy*, No. 13-5192 (D.C. Cir. 2013), No. 14-405 (U.S. 2014) [hereinafter Law Professor Amicus Briefs] available at <http://ourchildrenstrust.org/sites/default/files/FiledLawProfAmicus.pdf> and <http://ourchildrenstrust.org/sites/default/files/LawProfAmicusBrief141106.pdf>; see also *Stories of TRUST: Calling for Climate Recovery*, a mini-documentary film series depicting young Americans whose lives are already being impacted by climate change and who are calling on their government trustees to take urgent action to prepare and implement comprehensive Climate Recovery Plans that will achieve a safe atmosphere for their generation and those to follow. <http://ourchildrenstrust.org/trust-films>.

³ See Law Professor Amicus Briefs.

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33

Continued, page 3 of 16

CO33-2

This is neither FERC's role nor pertinent to this project. The EIS recognizes the threat of global warming but identifies that it cannot be definitively determined whether it would increase or decrease global GHG emissions.

(both state and federal) involved in the environmental review process of the proposed project share these obligations.

3. Under the Public Trust Doctrine, the FERC and cooperating agencies have a fiduciary obligation to protect the atmosphere from the effects of human-induced global energy imbalance. These FERC and cooperating agencies may not manage the trust resource in a way that substantially impairs the atmosphere, the climate system, are oceans or water supply, or the public interest in a healthy atmosphere.⁴
4. If the FERC and cooperating agencies, as trustees of the atmosphere, do not take immediate effective action to protect, preserve, and restore the atmosphere back into balance, our children, future generations, and innumerable species will continue to suffer greater injury and damaging consequences.⁵ Significantly, fundamental constitutional rights of young people will be irreparably violated.
5. Science must define the fiduciary obligation that our federal authorities, as trustees, must fulfill under the Public Trust Doctrine and our Constitution. Earth has already heated over pre-industrial temperatures to levels that have substantially impaired our natural systems and if allowed to rise further will threaten the habitability of Earth for the human species. Rapid reduction of greenhouse gas (GHG) emissions is required to preserve a habitable climate for present and future generations. Thus, in order to protect our essential natural systems, the best available science demonstrates that our atmosphere must be returned to an equilibrium of less than 350 parts per million ("ppm")⁶ carbon dioxide to prevent long-term heating beyond 1° C (1.8° F), which scientific analysis deems catastrophic.⁷ Our atmosphere now has

CO33-2

⁴ See Law Professor Amicus Briefs.

⁵ See James Hansen, et al., *Assessing 'Dangerous Climate Change': Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature*, PLOS ONE 8:12, e81628 (2013) [hereinafter *Assessing 'Dangerous Climate Change'*] attached and available at <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0081648>; Amicus Briefs on Behalf of Scientists in Support of Youth Appellants and Petitioners before the D.C. Circuit and U.S. Supreme Court, *Alec L. v. McCarthy*, No. 13-5192 (D.C. Cir. 2013), No. 14-405 (U.S. 2014) [hereinafter *Scientists Amicus Briefs*] available at <http://ourchildrenstrust.org/sites/default/files/FiledScienceAmicus.pdf> and <http://ourchildrenstrust.org/sites/default/files/ScientistsAmicusBrief.14.11.06.pdf>; Expert Declarations in Support of Youth Plaintiffs, *Alec L. v. Jackson*, No. 1:11-cv-02235 (D.D.C. 2011), available at <http://ourchildrenstrust.org/page/91/expert-declarations>) (detailing the harm to our natural systems and the urgency in which the federal government needs to act to avoid the worst consequences of climate change); see also U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009) available at <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>.

⁶ The Status Review Report notes that "Some experts have suggested that atmospheric CO₂ levels must be reduced to those found in the 1970s (below 340 ppm and perhaps as low as 320 ppm) to maintain healthy coral growth over the long term (Veron et al., 2009)." Russell E. Brainard, et al., Status Review Report of 82 Candidate Coral Species Petitioned Under the U.S. Endangered Species Act 52 U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-PIFSC-27 (2011).

⁷ See Hansen, et al., *Assessing 'Dangerous Climate Change'* (attached); Scientists Amicus Briefs; Attached Scientific Summary of Climate Change, Ocean Acidification, and Safe Concentrations of Atmospheric Carbon Dioxide, 21-28.

3

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 4 of 16

carbon dioxide concentrations of around 399 ppm, which constitutes substantial impairment.⁸
If the FERC or any cooperating agency disagrees with this safe standard for atmospheric carbon dioxide levels or for a maximum increase in global surface temperature that should be allowed, please so state in your response to these comments. Please provide your analysis for what standard should be applied, your reasoning, scientific support for that standard, and a comprehensive analysis of what American citizens, present and future generations, should expect to result from that standard in terms of impacts to their lives, liberties, and property, as well as overall impacts to the ecosystems across our nation, in full compliance with NEPA.⁹

CO33-2
Cont'd

6. To fulfill their constitutional public trust obligations, the FERC and cooperating agencies, as trustees, must work collectively with other federal departments and agencies to prepare and implement a National Climate Recovery Plan based on the best available science to manage and protect trust resources for the continued benefit of present and future generations of citizens.¹⁰
7. The National Climate Recovery Plan must place limits on national carbon emissions, while also promoting massive reforestation programs, and must be tiered to bringing the carbon concentration in the atmosphere back to 350 ppm by the end of the century.¹¹
8. The Plan must be developed and implemented immediately. Significant delay will compound

⁸ U.S. Department of Commerce, National Oceanic & Atmospheric Administration, Earth System Research Laboratory, *Trends in Atmospheric Carbon Dioxide*, <http://www.esrl.noaa.gov/gmd/ccgg/trends/global.html> (last visited Feb. 11, 2015).

⁹ In the Final EIS, the FERC must consider and respond to all comments by either modifying the EIS or explaining "why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response." 40 C.F.R. § 1503.4(a) (2012); see *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 537 (8th Cir. 2003) (The "agency preparing an FEIS [has] the duty to assess, consider, and respond to all comments."); *Warm Springs Dam Task Force v. Grizzle*, 565 F.2d 549, 554 (9th Cir. 1977) ("The relevant questions under the NEPA are whether such comments are made available to decision-makers, whether the differences of opinion are readily apparent, and whether they receive good faith attention from decision-makers." (emphasis added)).

¹⁰ In the Government Accountability Office's High-Risk Series Report to Congress in February 2015, the GAO stated that "[t]he federal government would be better positioned to respond to the risks posed by climate change if federal efforts were more coordinated and were directed toward common goals." GAO-15-290. In its 2011 Climate Change Report to Congress, the GAO recommended: "To improve the coordination and effectiveness of federal climate change programs and activities, we recommend that the appropriate entities within the Executive Office of the President, including the Council on Environmental Quality, Office of Energy and Climate Change Policy, Office of Management and Budget, and Office of Science and Technology Policy, in consultation with Congress, work together with relevant federal agencies and interagency coordinating bodies to take the following two actions:

- Clearly establish federal strategic climate change priorities, including the roles and responsibilities of the key federal entities, taking into consideration the full range of activities within the federal climate change enterprise.
- Assess the effectiveness of current practices for defining and reporting federal climate change funding and aligning funding with priorities, and make improvements to such practices as needed for Congress and the public to fully understand how climate change funds are spent." GAO-11-317.

¹¹ See Hansen, et al., *Assessing 'Dangerous Climate Change'* (attached); Scientists Amicus Briefs.

4

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 5 of 16

the difficulty of administering a regulatory program to achieve necessary emissions reductions.¹²

9. Any and all analysis of the National Climate Recovery Plan must be evaluated in the context of all United States carbon emissions in order to assess whether emission limits are in line with the need to reduce national emissions by at least 6% per year beginning in 2013 (now at 7% per year and increasing to 15% per year reductions if we wait until 2020), according to James Hansen, et al.'s best science on achieving 350 ppm by 2100.¹³
10. The obligation of our federal government to create a National Climate Recovery Plan based on the best available science and the necessity of such a plan is made clear by *amicus curiae* briefs filed on behalf of a wide array of interests including: law professors; scientists, faith groups; government leaders, national security experts; supporters of Native Nations; and human rights, youth, and conservation organizations on the global impacts of climate change. These briefs are attached and submitted to the record as evidence that the proposed project is not in the public interest and must not be approved.¹⁴
11. As part of their fiduciary duties as trustees to manage and protect our country's vital natural resources, the FERC and all of the executive agencies involved in the environmental review process of the proposed project have the duty of loyalty to administer the trust solely in the interest of the trust beneficiaries—both present and future generations of citizens.¹⁵

Based on the Best Science and Evidence, An Assessment of the Status of the Atmospheric Resource and a National Climate Recovery Plan Calibrated to Standards of Protection Must Precede Approval of the Proposed Project and the EIS Must Address the Direct, Indirect, and Cumulative Impacts of GHG Emissions and Climate Change.

12. The National Environmental Policy Act (NEPA) incorporates many public trust principles, including the protection of the rights of posterity. In enacting NEPA in 1969, Congress declared, as national policy, that it is the continuing responsibility of the federal government

¹² See Hansen, et al., *Assessing 'Dangerous Climate Change' (attached); Scientists Amicus Briefs.*

¹³ *Id.*

¹⁴ See Amicus Briefs in Support of Youth Appellants and Petitioners before the D.C. Circuit and U.S. Supreme Court, *Alec L. v. McCarthy*, No. 13-5192 (D.C. Cir. 2013), No. 14-405 (U.S. 2014) available at <http://ourchildrenstrust.org/sites/default/files/LawProfAmicusBrief.14.11.06.pdf>; <http://ourchildrenstrust.org/sites/default/files/ScientistsAmicusBrief.14.11.06.pdf>; <http://ourchildrenstrust.org/sites/default/files/SistersOfMercy-Sachs.AmicusBrief.14.11.06.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledLawProfAmicus.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledScienceAmicus.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledPathAmicus.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledNativeAmicus.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledNationalSecurityAmicus.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledGovernmentAmicus.pdf>; <http://ourchildrenstrust.org/sites/default/files/FiledGlobalImpactsAmicus.pdf>.

¹⁵ See *Robinson Twp. et al. v. Commonwealth of Pa.*, 83 A.3d 901, 957 (Pa. 2013).

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33

Continued, page 6 of 16

CO33-3

No such baseline is identified in the DEIS, and the dangers of climate change are identified in the DEIS. FERC disagrees with the contention that it "must assess the cumulative long-term impairment to the atmospheric resource since the 1969 NEPA Baseline of GHG emissions and carbon concentrations...[by] completing] a programmatic/aggregate analysis/accounting of the GHG emissions from federal actions, and other actors, since 1969."

to use all practicable means "to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may fulfill the responsibilities of each generation as trustee of the environment for succeeding generations."¹⁶ As part of that responsibility, federal agencies must "recognize the worldwide and long-range character of environmental problems"¹⁷ and disclose and consider "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented."¹⁸

13. A fundamental purpose of NEPA is "to promote efforts which will prevent or eliminate damage to the environment and biosphere."¹⁹ Thus the enactment of NEPA in 1969 forms the environmental baseline by which damage or impairment to the atmosphere must be assessed. In December 1969, the atmospheric CO₂ concentration was 324 ppm.²⁰

14. In the DEIS, the FERC and cooperating agencies look narrowly at the environmental impacts from the GHG emissions of the proposed project and treat the year 2014 as the environmental baseline to which they are comparing the impacts. With the current 399 ppm CO₂ concentration, the atmosphere has already been substantially impaired. Under NEPA and its constitutional public trust obligations, the federal government must assess the cumulative long-term impairment to the atmospheric resource since the 1969 NEPA Baseline of GHG emissions and carbon concentrations. To complete this assessment of the status of the atmospheric resource, the federal government must complete a programmatic/aggregate analysis/accounting of the GHG emissions from federal actions, and other actors, since 1969.

CO33-3

15. Any and all analysis of the potential impact of GHG emissions from the proposed project must be evaluated in relation to the 1969 NEPA Baseline and in terms of whether these

¹⁶ 42 U.S.C. § 4331(b)(1); *see also* 42 U.S.C. § 4331(a) ("The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.")

¹⁷ 42 U.S.C. § 4332(2)(F).

¹⁸ 42 U.S.C. § 4332(2)(C)(iv)-(v).

¹⁹ 42 U.S.C. § 4321.

²⁰ EPA, *Carbon Through the Seasons*, 8, <http://www.epa.gov/climatestudents/documents/carbon-through-the-seasons.pdf>; *see also* Attached September 17, 1969 Letter from Patrick Moynihan to John Ehrlichman regarding the threat of carbon dioxide emissions to the atmosphere and resulting impacts from global heating as evidence that the United States has known since at least the time of NEPA's enactment that carbon emissions threatened the human environment. However, the federal government has completely failed to protect that baseline and prevent further warming. In fact, the United States has allowed the emission of as many greenhouse gases since NEPA's enactment as it did for the prior 200 years combined, resulting in a substantially impaired and threatened resource.

6

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 7 of 16

emissions are in line with the U.S. government's public trust and constitutional obligation to reduce emissions according to Dr. Hansen, et al.'s best science on achieving at least 350 ppm by 2100 and preventing long-term heating beyond 1° C (1.8° F).²¹ As far as we know, it is the only emission reduction trajectory calibrated to restore the atmospheric resource, the energy imbalance of Earth, and avoid the worst consequences of climate disruption and ocean acidification. Anything less than this trajectory will irreparably harm the human environment on which our children rely for their life, liberty and property and which our posterity are entitled to inherit.

16. The FERC's decision on whether to permit the proposed project must be preceded by an assessment of the status of the atmospheric resource relative to the 1969 NEPA Baseline and a comprehensive National Climate Recovery Plan that takes all nationally cumulative GHG emissions into account, especially carbon dioxide, and ensures annual emission reductions calibrated to the 350 ppm trajectory will be achieved and details how they will be achieved. Approving the proposed project, which would result in significant GHG emissions, outside of an assessment of the atmospheric resource and national plan for protecting the atmosphere in trust for present and future generations, would be a gross violation of the U.S. Constitution, the U.S. government's public trust responsibility to our posterity, and of NEPA.²²
17. In the DEIS, the FERC and cooperating agencies failed to adequately consider the best science and evidence in evaluating the proposed project's impacts on the growing climate crisis and ocean acidification. The scientific accuracy of the DEIS and the methodologies that the FERC utilized are not sound and transparent as required under NEPA.²³ The EIS must disclose the most relevant science on climate change and the scientific prescription for climate recovery and protecting our atmospheric resource. In particular, Dr. Hansen's paper discussed above, *Assessing 'Dangerous Climate Change': Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature*, should have been included.²⁴ The science and other best evidence presented and included in these comments and the attachments should be fully considered in the FERC's and any cooperating agency's analyses for the Final EIS of the proposed project.

18. When there is incomplete or unavailable information, the FERC and cooperating agencies must take a precautionary approach.²⁵

²¹ See Hansen, et al., *Assessing 'Dangerous Climate Change'* (attached); Scientists Amicus Briefs.

²² See Law Professor Amicus Briefs.

²³ 40 C.F.R. § 1502.24 ("Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement.").

²⁴ See Hansen, et al., *Assessing 'Dangerous Climate Change'* (attached).

²⁵ CEQ NEPA regulations require that "[w]hen an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking." 40 C.F.R. § 1502.22. "For the purposes of this section, 'reasonably foreseeable' includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific

7

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

19. In the EIS, the FERC and cooperating agencies are required by NEPA to take a “hard look” at the direct, indirect, and cumulative impacts of the proposed project and at alternatives that could reduce or eliminate those environmental impacts.²⁶ FERC has failed to take this hard look because it does not account for the carbon emission, climate, and ocean acidification impacts to already impaired resources over the lifespan of the project. There is no accounting of the lifespan emissions resulting from the project and all that it facilitates, from fracking in the inner-mountain states to combustion of LNG in Asia. Nor is there any analysis of these cumulative lifespan emissions measured against the United States’ obligation to its citizens to reduce emissions in line with the science to protect life, liberty and property from the lethal threat of fossil fuel emissions to our natural life-sustaining systems and human civilization.

CO33-4

20. The FERC and cooperating agencies have not rigorously explored and evaluated all reasonable alternatives to the proposed project, including alternatives not within its jurisdiction, as it is required to do so under NEPA.²⁷ These alternatives must include energy efficiency and renewable energy technologies, including but not limited to new building codes; electric vehicles and plug-in hybrids; algal biofuels to replace fossil fuels in both commercial and military aircraft; wind and solar generated electricity; and a national smart grid.²⁸ If the primary objective of the proposed project is to meet the energy demands of overseas markets, the sharing of such technologies described above with the overseas markets has the ability to meet this objective. The failure to consider these reasonable alternatives commits us to additional fossil fuel extraction and infrastructure, when other alternatives for energy exist and better protect all of our human and natural resources, including our national security, which is severely threatened by climate disruption.²⁹

CO33-5

21. The U.S. Supreme Court has held that environmental impacts must be analyzed under NEPA when there’s “a reasonably close causal relationship” between the environmental effect and the alleged cause.³⁰ In the DEIS, the FERC and cooperating agencies state “it is impossible to quantify the impacts that the emissions of GHG from the construction and operation of the Project would have on climate change.”³¹ In the same sentence, however, the agencies admit there is a causal relationship between the proposed project and the atmospheric concentration of GHGs.³² The EIS must quantify and analyze the impact of increased atmospheric concentration of GHGs over the lifespan of the project that (the FERC already admits in its

evidence, is not based on pure conjecture, and is within the rule of reason.” *Id.* at § 1502.22(b)(1).

²⁶ 42 U.S.C. § 4332(2)(C)(i)-(ii); 40 C.F.R. §§ 1502.16, 1508.7, 1508.8, 1508.25.

²⁷ 40 C.F.R. § 1502.14.

²⁸ Expert Declaration of Arjun Makhijani, Ph.D. in Support of Youth Plaintiffs, *Alec L. v. Jackson*, No. 1:11-cv-02235 (D.D.C. 2011) available at <http://ourchildrenstrust.org/sites/default/files/Makhijani%20Dec.pdf>.

²⁹ Amicus Brief on Behalf of National Security Experts in Support of Youth Appellants, *Alec L. v. McCarthy*, No. 13-5192 (D.C. Cir. 2013) available at <http://ourchildrenstrust.org/sites/default/files/FiledNationalSecurityAmicus.pdf>.

³⁰ *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004) (quoting *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774, (1983)).

³¹ DEIS for JCE & PCGP Project, 4-1043.

³² *Id.* (“[T]he Project would contribute to the overall amount of atmospheric GHG . . .”).

8

Our Children’s Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

CO33 Continued, page 8 of 16

CO33-4 Fracking, or hydraulic fracturing, is used during exploration and production of natural gas. As stated in our response to IND1-2, the FERC does not regulate the exploration or production of natural gas. In fact, fracking is not part of the Project; and therefore, the environmental impacts associated with that activity will not be analyzed in our environmental document. See response to IND1-3. Furthermore, the actions that Asian countries make take or their used of the gas is also outside the jurisdiction of FERC or scope of this EIS.

CO33-5 See the discussion in Chapter 3 regarding how alternatives were considered.

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 9 of 16

DEIS) is caused by the proposed project. Specifically, FERC can calculate how additional CO₂ concentrations further imbalance the Earth's energy system in terms of kilowatt hours per square meter. *See* Dr. James Hansen. FERC can calculate the total metric tons of carbon dioxide the United States should be decreasing on an annual basis to return to the 1969 baseline or at minimum the 350 ppm prescription by 2100, the best science on climate recovery, and how this project affects those necessary reductions over the lifecycle of the project. If FERC does not have enough information, then it may not approve the project, and must pursuant to NEPA and its public trust obligation, obtain the information necessary to make a full disclosure and analysis and ensure for the American people and our posterity their rights to life, liberty and property.

22. In assessing the proposed project's impact on the atmospheric concentration of GHGs, the FERC and cooperating agencies must consider both the indirect and cumulative GHG emissions from the proposed project. CEQ NEPA regulations define "indirect effects" as those that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable" and "may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."³³ "Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."³⁴ In considering indirect and cumulative impacts, the FERC failed to analyze any delayed or incremental impacts of the increased GHG emissions caused by the proposed project. Disclosing an estimate of annual emissions from the power plant itself does not suffice. FERC must disclose total emissions over the life span of the project from the fracking, transport, liquefaction, transport, and combustion associated with the gas. Once it discloses that figure, FERC must do an actual analysis of those emissions, added to all other cumulative emissions since at least 1969 and the additional harm to the human environment. To make this analysis meaningful, please answer these questions:

- a. What does FERC or the U.S. use as a maximum global warming temperature goal for the most heating to the Earth's surface and our oceans that is safe for humanity and other living organisms, including human life, liberty and property?
- b. What does FERC or the U.S. use as a maximum atmospheric carbon dioxide concentration level that is safe for humanity and other living organisms, including human life, liberty, and property?
- c. What U.S. plan for restoring our atmosphere to safe levels of carbon dioxide, and our planet to safe temperatures does FERC use as a basis for conducting its cumulative impacts analysis?

³³ 40 C.F.R. § 1508.8(b).

³⁴ *Id.* § 1508.7.

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 10 of 16

23. In assessing the proposed project's impact on the atmospheric concentration of GHGs, the FERC and cooperating agencies must consider the GHG emissions from the entire life cycle of the gas associated with the proposed project, which includes the exploration, extraction, production, transportation, shipment and combustion of the gas. In the introduction of the DEIS, the FERC and cooperating agencies state that "[t]he 'life-cycle' cumulative environmental impacts" from the proposed project are outside the scope of the EIS and will not be addressed because they "are far beyond the jurisdictional authority of the FERC or the activities related to the Project."³⁵ The FERC's obligation under NEPA to assess the cumulative life cycle GHG emissions resulting from the project is not affected by whether the impact is beyond its jurisdictional authority.³⁶ Additionally, the FERC directly contradicts its claim that such impacts cannot "be easily or reasonably calculated"³⁷ by referencing life cycle analysis evaluations of GHG emissions from two LNG projects and giving estimates for the GHG emissions associated with the transoceanic voyages of LNG vessels and the end use GHG emissions of the amount of gas associated with the proposed project.³⁸
24. The FERC must consider transboundary impacts from the proposed project, including GHG emissions from the extraction and production of the gas in Canada and the end use of the gas in Asian markets. CEQ-issued guidance states that "NEPA law directs federal agencies to analyze the effects of proposed actions to the extent they are reasonably foreseeable consequences of the proposed action, regardless of where those impacts might occur"³⁹ and concluding "that agencies must include analysis of reasonably foreseeable transboundary effects of proposed actions in their analysis of proposed actions in the United States."⁴⁰
25. The FERC's failure to address the transboundary GHG emissions of the proposed project in its DEIS also violates NEPA jurisprudence requirements. As in *Border Power Plant Working Group v. Department of Energy*, GHG emissions resulting from additional natural gas production in Canada and use of the gas in Asian markets are causally linked to the construction and operation of the pipeline and are therefore "effects" of the pipeline that must be analyzed under NEPA.⁴¹ In *Border Power Plant*, the court held that the transboundary impacts of the power turbines in Mexico, including the CO₂ emissions, must be analyzed under NEPA because the turbine and transmission line were "two links in the same chain."⁴² Similarly, the natural gas production in Canada, the proposed project, and the end use of the

³⁵ DEIS for JCE & PCGP Project, 1-21.

³⁶ 40 C.F.R. § 1508.7.

³⁷ DEIS for JCE & PCGP Project, 1-21.

³⁸ DEIS for JCE & PCGP Project, 4-894-895.

³⁹ Council on Environmental Quality Guidance on NEPA Analyses for Transboundary Impacts at ¶ 4 (July 1, 1997) available at <http://www.ec.noaa.gov/documents/transguide.pdf>.

⁴⁰ *Id.* at ¶ 6; see also *Gov't of the Province of Manitoba v. Salazar*, 691 F. Supp. 2d 37, 51 (D.D.C. 2010) (relying on the CEQ Guidance and holding that defendants were required to consider the Canadian impacts of their U.S. water supply project).

⁴¹ See *Border Plant Working Grp. v. Dep't of Energy*, 260 F. Supp. 2d 997, 1017 (S.D. Cal. 2003).

⁴² *Id.*

10

20150213-5311 PERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 11 of 16

gas in overseas markets are all “links in the same chain.”⁴³

26. The FERC’s refusal to seriously consider the reasonably foreseeable indirect effects of expanded natural gas production in Canada and the U.S., including increased GHG emissions, also violates NEPA. In *Mid States Coalition for Progress v. Surface Transportation Board*, the court found that the proposed project to construct and upgrade rail lines to reach coal mines would likely result in an increase of CO₂ emissions.⁴⁴ The court stated that NEPA requires federal agencies to consider “any adverse environmental effects,” including both direct and indirect effects.⁴⁵ “[I]t is reasonably foreseeable—indeed, it is almost certainly true—that the proposed project [by increasing the availability of natural gas to overseas markets] will increase the long-term demand for [natural gas] and any adverse effects that result from” its production.⁴⁶
27. The cumulative greenhouse gas emissions from natural gas obtained through fracking are comparable to coal.⁴⁷ The export of natural gas through the proposed pipeline and terminal would increase fracking in the United States, including in states like Colorado, increasing GHG emissions even further. The FERC and cooperating agencies must consider these impacts of the proposed project in the Final EIS, including fracking impacts on other natural resources like water, land, wildlife and on human health.⁴⁸
28. Under NEPA, the FERC and cooperating agencies must analyze the cumulative impact of life cycle GHG emissions of all federally-approved fossil fuel development, transportation, and export projects and any other federal action that results in the increased concentration of GHGs in the atmosphere (e.g., timber sale) since the 1969 NEPA Baseline. The FERC’s failure to fully evaluate the cumulative impacts of the proposed project’s life cycle GHG emissions combined with the GHG emissions from other federal actions is a violation of NEPA. As noted by the Ninth Circuit in *Center for Biological Diversity v. NHTSA*, “the fact that climate change is largely a global phenomenon that includes actions outside of the

⁴³ See *id.*

⁴⁴ *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003) (applying reasoning from this case to the proposed project).

⁴⁵ *Id.* at 549 (citing 42 U.S.C. § 4332(C); 40 C.F.R. § 1508.8).

⁴⁶ *Id.*

⁴⁷ Robert Howarth, et al., *Methane and the Greenhouse-Gas Footprint of Natural Gas from Shale Formations*, 106(4) *Climatic Change* 679, 687 (2011).

⁴⁸ See 2014 NY Dept. of Health Study, which preceded the Statewide Ban on Fracking: “A Public Health Review of High Volume Hydraulic Fracturing for Shale Gas Development,” http://www.health.ny.gov/pres/reports/docs/high_volume_hydraulic_fracturing.pdf; Earth Guardians Petition for Rulemaking to Colorado Oil and Gas Conservation Commission, <http://ourchildrenstrust.org/sites/default/files/COFrackingPetition.pdf>; to Lisa M. McKenzie et al., *Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources: Science of the Total Environment* (2012) <http://cosce.state.co.us/library/setbackstakeholdergroup/Presentations/Health%20Risk%20Assessment%20of%20Air%20Emissions%20From%20Unconventional%20Natural%20Gas%20-%20LisaMcKenzie2012.pdf>; *Fracking Would Emit Large Quantities of Greenhouse Gases*, <http://www.scientificamerican.com/article.cfm?id=fracking-would-emit-methane>.

11

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

agency's control does not release the agency from the duty of assessing the effects of *its* actions on global warming within the context of other actions that also affect global warming."⁴⁹ "The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."⁵⁰

29. Specifically, FERC must evaluate the dozens Pacific Northwest fossil fuel export projects as part of a program to open up global markets for U.S. fossil fuels and the cumulative impacts of that export program.

CO33-6

30. Scientists agree that emission levels this decade will determine our fate and may push us beyond tipping points from which we cannot return. Time is of the essence.⁵¹ The Final EIS must explain how the cumulative GHG emissions from the proposed project in combination with the cumulative impacts of the GHG emissions of all federal actions since 1969 will affect our nation's response to the urgency of the crisis and the need to reduce emissions at sufficient levels to avoid unsafe levels of heating and further acidification of our oceans.

31. Approval of the proposed project would also violate the CWA, CERCLA, NGA and the National Contingency Plan. Moreover, the National Contingency Plan is out of compliance with both statutory law and the rights of young people and future generations under the Public Trust Doctrine and the U.S. Constitution.

CO33-7

The Draft Environmental Impact Statement Fails to Address the Following Impact Issues Based on the Best Science and Evidence, as Required by NEPA and the CEQ Regulations and the Public Trust Doctrine

32. How much atmospheric carbon dioxide is safe for oceans and will additional carbon dioxide released as an effect of the proposed project further impact and harm oceans? Scientists say that carbon dioxide levels higher than 350 ppm are dangerous for our oceans.

33. How much surface temperature warming is safe for oceans and will additional carbon dioxide released as an effect of the proposed project further impact and harm oceans? Scientists say that current levels of ocean warming are already harming marine life and causing significant melting, including the West Ice Sheet of Antarctica, which is irreversibly on its way to collapse due to ocean warming.

34. We have already lost significant ocean productivity (i.e. food supply potential and ecological function) due to GHG emissions, which have caused acidification and warming and will

⁴⁹ *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1217 (9th Cir. 2008) (emphasis in original) (alterations and internal quotation marks omitted).

⁵⁰ See *id.* "The cumulative impacts regulation specifically provides that the agency must assess the 'impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.'" *Id.* (quoting 40 C.F.R. § 1508.7) (emphasis in original).

⁵¹ See Hansen, et al., *Assessing 'Dangerous Climate Change' (attached)*; Scientists Amicus Briefs.

12

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

CO33 Continued, page 12 of 16

CO33-6 The proposed coal and oil export terminals mentioned in the comment are not part of, or alternatives to, the proposed action, which involves exporting natural gas.

CO33-7 An approval by the Commission would be contingent on the applicants meeting all laws.

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 13 of 16

additional emissions as an effect of the proposed project further impact and harm ocean productivity and economic benefits. This is not analyzed in the DEIS.

35. The DEIS must address how much surface temperature warming would be safe to avoid dangerous melting of ice sheets, glaciers and permafrost, which would release methane and will additional carbon dioxide released as an effect of the proposed project further threaten our ice resources.
36. Global Change says that a critical tipping point/threshold is when melting permafrost and ocean sediment releases methane in such quantities that we would have major alterations of our climate system, which would be irreversible on human time scales. Why is the precautionary principle not advised when this precise tipping point is presently unknown? Does FERC have any evidence to show that this project will not cumulatively press warming past tipping points of no return. And how would that tipping point be quantified in terms of GHG emissions and CO2 levels?
37. If Arctic communities need to relocate because of melting ice and sea level rise and severe storms and flooding, doesn't that establish unacceptable risk? It presents considerable risk to present generations and eliminates the prospects of continued habitation in culturally important areas for future generations. How is this taken into account?
38. The paleoclimate records and James Hansen's work are not incorporated anywhere in the DEIS. The paleoclimate records are the best indications of understanding cause and effect with GHG emissions and warming.
39. Given that significant impairment and degradation and loss of life has already occurred as a result of human-caused climate disruption, how much more risk does FERC estimate is tolerable or legally viable?
40. The atmospheric resource already been substantially impaired. At what point did substantial impairment occur? When do carbon dioxide levels become unsafe?
41. How is consumption correlated to emissions? The Final EIS should evaluate how completion of the proposed project will increase consumption and thus increase emissions.
42. The purpose of the Global Change Act is to enable timely policy decisions on mitigation and adaptation by presenting information to decision makers. How have the recent National Climate Assessment or any other work of the U.S. Global Change Research Program been incorporated to enable a decision that allows for timely mitigation to climate change? It does not appear that FERC has taken this information into account in its environmental analysis.

13

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33

Continued, page 14 of 16

CO33-8

The EIS is being prepared with the help of a third-party contractor. All contracting requirements have been complied with.

The Draft Environmental Impact Statement Fails to Address the State of Oregon's Public Trust Obligation to its Citizens to Protect Public Trust Resources, Including Water, Shorelines, Wildlife, Air/Atmosphere, and Oceans.

43. Two Oregon youth sued the State of Oregon for failing to comply with its public trust obligation to protect Oregon's trust res. That case is proceeding in Lane County Circuit Court. Pursuant to the public trust doctrine, and a possible court order, the State will be under an obligation to take actions to reduce carbon emissions within the State pursuant to the best science of climate recovery, as presented herein. This proposed project would result in some of the highest emissions in the State, second only to the single remaining coal-fired power plant, which is being decommissioned. Pursuant to NEPA, and the U.S. Constitution, FERC must evaluate how approval of this project would adversely impact the State's reserved powers under the 10th Amendment and its sovereign obligations to its citizens to protect their public trust res, for present and future generations.

44. We incorporate into these comments the legal arguments submitted to the court as well as the expert testimony establishing that the atmosphere is already substantially impaired, which threatens other trust resources of Oregon, and that the State must reduce its carbon emissions significantly and on an annual basis.³² The State of Oregon does not dispute this evidence. This project would interfere with the citizen's rights and with the State's sovereign obligation and for that reason, FERC should not certify this project to proceed.

The Draft Environmental Impact Statement Fails to Disclose any Conflicts of Interest, Federal Subsidies or Other Ways in Which FERC's Duty of Loyalty to U.S. Citizens is Compromised in This Environmental Review or Decision-making Around This Project

45. FERC owes a duty of loyalty to the People of the United States and future generations in making decisions of this magnitude. FERC owes no duty of loyalty to corporations or other countries when evaluating this project. How has FERC exercised its duty of loyalty the public and posterity?

46. Has, or will, the Project Proponent receive any federal funding, tax breaks, or other forms of subsidy related to this project?

47. Has the EIS been prepared with the assistance of a contractor or consulting firm? If so, has the contractor executed a disclosure statement specifying that they have no financial or other interest in the outcome of the project, as required by NEPA?³³

CO33-8

³² Opening brief and expert declarations in *Chernaik v. Kitzhaber*, No. 161109273 (Jan. 9, 2015) available at http://ourchildrenstrust.org/sites/default/files/15.01.09_OR_PleMottforSJ.pdf
http://ourchildrenstrust.org/sites/default/files/P.Mote_OR.Dec_.pdf
http://ourchildrenstrust.org/sites/default/files/B.Hales_OR.Dec_.pdf
http://ourchildrenstrust.org/sites/default/files/E.Niemi_OR.Dec_.pdf

³³ 40 C.F.R. § 1506.5(c).

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

CO33 Continued, page 15 of 16

48. Has there been any conflict of interest that would jeopardize the objectivity and integrity of FERC or any cooperating agency's environmental review of the proposed project?
49. Does any employee or contractor of FERC or any cooperating agency involved in the environmental review of the proposed project have any financial or other interest in the outcome of the decision on whether to approve the proposed project?
50. Do any of the decision makers have affiliations with fossil fuels industries? Have they worked for the fossil fuel industry in the past? Please disclose all ties that FERC staff working on this project have to fossil fuel industries.
51. What type of lobbying has the fossil fuel industry done to FERC regarding this project?
52. What will this project cost Oregon and Federal taxpayers in the form of direct and indirect subsidies and tax breaks?
53. Please disclose all communications that FERC has had with the fossil fuel companies that would benefit from the project.

CO33-8
Cont'd

As confirmed by the 2014 reports from the National Climate Assessment and the Intergovernmental Panel on Climate Change, the climate changes that are currently occurring are unprecedented. The FERC and all of the agencies involved in the environmental review process of the proposed project must accept their constitutional public trust responsibility to protect the atmosphere and take the immediate bold action necessary to prevent catastrophic climate change before it's too late.

Our Children's Trust submits this letter also on behalf of the TRUST Campaign and its partners, Earth Guardians, Youth Climate Action Now, WITNESS, Rogue Climate, 350 Eugene, and the following individual young citizens of our nation:

Hannah Sohl (Oregon Resident, age 25)
Lauren Ward (Oregon Resident, age 25)
Alex Budd (Oregon Resident, age 22)
Kelsey Juliana (Oregon Resident, age 18)
Kiran Oommen (Oregon Resident, age 18)
Gwen Frost (Oregon Resident, age 17)
Eva Happy (Oregon Resident, age 14)
Tayo Olson (Oregon Resident, age 10)
Bay Olson (Oregon Resident, age 8)
Arianna Bellinger (Oregon Resident, age 5 months)
Sahara (age 10) and Lydia Valentine (age 7) and their mother, Toña Aguilar (Oregon Residents)
Shyam Das-Toke (age 19), and Arun Toke and the Das-Toke family of Eugene, Oregon
Xiuhtezcatl Martinez (Colorado Resident, age 14)
Itzcuahtli Roske-Martinez (Colorado Resident, age 11)

15

Our Children's Trust, et al. Public Comments on FERC DEIS for JCE & PCGP projects
Docket Nos. CP13-483-000, CP13-492-000

20150213-5311 FERC PDF (Unofficial) 2/13/2015 4:43:41 PM

We also submit these comments as a Guardian for future generations, our Posterity.

Thank you for your consideration. Please send us a response to our comments and the Final EIS and decision documents at the address listed below, on behalf of all of the commenters listed above.

Sincerely,



Julia Olson
Executive Director
Our Children's Trust
P.O. Box 5181
Eugene, OR 97405
Julia@ourchildrenstrust.org

Attachments (3)

CO33

Continued, page 16 of 16

CO33-9

This comment letter contained attachments that did not directly comment on the DEIS. These attachments have been reviewed and any relevant information found was incorporated into the analysis as applicable; however, the attachments are not included in this Appendix to the FEIS. The entire comment letter, including these attachments, is available on the eLibrary filed under accession number 20150213-5311.

CO33-9

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 The Western Environmental Law Center et. al

CO34

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
FEDERAL ENERGY REGULATORY COMMISSION

IN THE MATTERS OF)
)
Jordan Cove Energy Project, L.P.) Docket CP13-483-000
)
Pacific Connector Gas Pipeline, L.P.) Docket CP13-492-000
)

The Western Environmental Law Center, Sierra Club, Waterkeeper Alliance, Center for Biological Diversity, Oregon Shores Conservation Coalition, Umpqua Watersheds, Cascadia Wildlands, Oregon Wild, Crag Law Center, Pipeline Awareness Southern Oregon, Southern Oregon Rural Community Partnership, Bob Barker, Coast Range Forest Watch, Rogue Climate, Rogue Riverkeeper, Klamath Riverkeeper, Columbia Riverkeeper, Food & Water Watch, Rogue Flyfishers, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, 350EUGENE and Klamath-Siskiyou Wildlands Center submit these comments on the Draft Environmental Impact Statement for the Jordan Cove Energy and Pacific Connector Gas Pipeline Projects, dated November 2014.

I.	INTRODUCTION	4
II.	JORDAN COVE LIQUEFIED NATURAL GAS TERMINAL	5
A.	Geological Hazards.....	5
B.	Safety Issues.....	7
1.	Spills	7
2.	Other Safety Concerns.	7
C.	Water Quality and Compliance with the Clean Water Act.....	9
1.	Extent and Impact of Channel Deepening Projects	10
2.	Extent and Impact of Haynes Inlet Removal and Fill	11
3.	Dissolved Oxygen.....	11
4.	Extent of Completed Work	12
5.	Contaminated Soils at Terminal and Related Sites.....	12
6.	Impacts from Trenching through Coos Bay & Hayes Inlet	13
7.	Stormwater Management Plan.....	14
8.	Sources and Impacts of Hydrostatic Testing	15
9.	Wastewater Treatment Facilities.....	16

10.	The Proposed Action would Alter Wetlands that Perform Functions Important to the Public Interest.....	16
11.	The Application Fails to Incorporate Practicable Steps that will Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem. .	17
D.	Impacts to the Oregon Dunes ecosystem.....	23
E.	Impacts to Fish, Wildlife, and Sensitive Species.....	26
1.	Permanent Loss of High-Quality Benthic Communities	27
2.	Entrainment of Fish by LNG Vessels	29
3.	Temperature Impacts from Discharge of Cooling Water	30
4.	Strikes and Strandings by LNG Vessels	31
5.	Injury Caused by Noise from LNG Vessels and Marine Slip Construction	33
6.	Permanent Loss of Coastal Riparian Vegetation	33
7.	Individual Species.....	34
F.	Compliance with the Coastal Zone Management Act.	37
1.	Inadequate Information to Support Certification.....	38
2.	The Project is Inconsistent with Statewide Planning Goals.....	40
3.	The Project's Proposed Water Use is Inconsistent with Coastal Management Plan Policies.....	43
G.	Compliance with Port Ordinance 129.....	44
III.	PACIFIC CONNECTOR NATURAL GAS PIPELINE	45
A.	Pipeline and the Pipeline Right-of-Way	45
1.	Sediment Impacts from Corridor Clearing and Construction.....	45
2.	Temperature Impacts of Vegetation Clearing Along The Right-of-Way ..	48
3.	Northwest Forest Plan, Late-Successional Reserves, and Mitigation.	50
4.	Forest Fire Threats.	51
B.	Stream Crossings	51
1.	The DEIS Does Not Clearly Identify All Affected Waterbodies.	51
2.	Sedimentation and Turbidity from Stream Crossings.....	54
3.	Impacts, Risks, and Contingencies for Horizontal Directional Drilling ...	57
4.	Hydraulic Alteration at Each Pipeline Stream Crossing.....	58
5.	Potential Interference of Subsurface Flow Regimes from Pipeline Construction.....	58
6.	Post-Construction Restoration at Stream Crossings	59
7.	Impacts to the Rogue River.....	59

8.	The Pipeline, and Pipeline Stream Crossings in Particular, Will Violate Oregon's Antidegradation Policy.	62
C.	Impacts From Road Construction, Maintenance, Modification, and Use.....	63
1.	Extent and Type of New and Existing Roads Used.....	63
2.	Impacts of Road Construction, Modification, and Use	64
D.	Summary of Sedimentation Impacts	68
1.	Impacts on Smaller Streams and Waterways.....	73
E.	Wildlife Issues.	74
1.	Marbled Murrelets (<i>Brachyramphus marmoratus</i>).....	74
2.	Northern Spotted Owl (<i>Strix occidentalis caurina</i>).....	77
3.	Mitigation of Impacts to Marbled Murrelets and Northern Spotted Owls Is insufficient.	78
4.	Grey Wolf.	84
5.	Pacific Fisher.	85
6.	Salmonids.....	85
7.	Oregon Spotted Frogs	86
8.	Plants and Invertebrates.	86
F.	The Proposed Mitigation Is Inadequate	88
G.	Safety issues.....	89
H.	Geological Hazards.....	91
I.	Use of Eminent Domain Is Inappropriate For This Pipeline, Because It Will Not Serve A Public Purpose.	92
1.	The Project Does Not Benefit The American Public.....	92
2.	Purpose of Pipeline.	94
3.	Blanket Certificate.	94
4.	Rural Emergency Services.....	95
5.	Bonding	96
6.	Other Landowner Concerns.	96
J.	Forest Plan Amendments.	96
1.	Forest Plan Amendments Generally.	96
2.	Survey and Manage Forest Plan Amendments Are Significant.....	98
3.	Soil Forest Plan Amendments Are Significant.	98
4.	Forthcoming Forest Service and BLM Environmental Impact Statements and Record of Decisions.	98
H.	Compliance with the Northwest Forest Plan.	99

1.	Aquatic Conservation Strategy	99
2.	Riparian Reserves.	101
3.	Key Watersheds.	103
4.	Late Successional Reserves.	104
5.	Increased Fire Hazard in LSRs.	107
6.	A Reasonable Action Alternative For LSR Management Should Have Been Developed.	108
7.	The Project Will Violate the Aquatic Conservation Strategy	108
K.	Compliance with the Oregon and California Lands Act.	108
L.	Visual Impacts.	109
IV.	DIRECT CLIMATE IMPACTS.	109
V.	INDIRECT EFFECTS OF INDUCED GAS PRODUCTION, GAS PRICE INCREASES, AND END USE OF LNG.	112
A.	Environmental Impacts of Induced Gas Production	114
B.	Indirect effects on U.S. electricity generation.	119
C.	Impacts from other slices of the LNG lifecycle.	119
D.	Cumulative Effects to Wildlife Species.	120
VI.	ALTERNATIVES.	123
A.	The DEIS Improperly Rejects a Smaller Marine Slip Alternative	123
B.	The DEIS Improperly Rejects Several "System" Alternatives Using Existing Peak-Shaving Liquefaction Facilities.	125
C.	FERC Must Consider A Hybrid Alternative of Using Electricity from the Grid and a Smaller South Dunes Power Plant.	126
D.	THE DEIS IMPROPERLY REJECTS THE ALTERNATIVE OF USING ELECTRIC POWER AT THE KLAMATH COMPRESSOR STATION	128
E.	Alternatives Relocating Terrestrial Activities to Reduce Disturbance of Aquatic Sites.	128
F.	Alternatives to Size and Design of Key Project Elements.	129
G.	Alternative Rogue River Crossing.	132
VII.	INCOMPLETE AND MISSING INFORMATION	132
VIII.	CONCLUSION.	134

I. INTRODUCTION

This draft environmental impact statement concerns a liquefied natural gas project that will require construction of massive infrastructure, directly impacting people and the environment throughout Oregon, and indirectly impacting the environment throughout the regions where

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 5 of 138

exported gas is produced and, by significantly contributing to climate change, the environment worldwide.

Jordan Cove Energy Project, L.P. ("Jordan Cove") seek to build liquefaction and terminal facilities capable of exporting up to 0.8 billion cubic feet per day (bcfd) of natural gas as liquefied natural gas ("LNG") from a proposed LNG export terminal in Coos Bay, Oregon. The proposed project will also have import capability. The proposed design also includes a 420 MW powerplant to supply electricity to the terminal site and a 232-mile, 36-inch high-pressured gas pipeline. This pipeline would be placed through Coos Bay and cross and permanently impair streams, wetlands, and sloughs, along with causing associated deleterious impacts to upland habitat, forest, farm, recreational, and residential uses. The pipeline would cross 400 waterbodies, cross more than 11 miles of wetlands, require clear cutting of 1,013 acres of the remaining old growth forests in Oregon, cross steep and remote terrain prone to landslides where emergency response is limited to local volunteers, and impact and permanently impair approximately 5,938 acres of state, federal and privately owned lands. DEIS at 4-412, 4-448.

The current proposal is a modification of a prior, import-only proposal. In the course of review of that prior import-only proposal, including FERC's NEPA review thereof, environmental and community organizations (including many of the undersigned), state and local government officials, and other federal agencies expressed numerous criticisms regarding the project itself and the adequacy of environmental review thereof. Many, if not most, of these criticisms continue to apply to the current proposal. The current export proposal will have even greater environmental impacts than the previous proposal (including but not limited to impacts relating to construction of liquefaction equipment, providing power for this equipment, and inducement of additional gas production to provide a supply for exports). Many of the deficiencies in the prior environmental review have not been corrected in the current draft EIS. Accordingly, below, we frequently cite the draft and final environmental impact statements, and comments thereon, filed in FERC dockets CP04-441 and CP07-444. These documents are, obviously, already available to FERC, and must be considered part of the record here.

The current draft EIS is deficient because it glosses over the many of the Project's significant impacts and completely ignores many others. We discuss these deficiencies below. Following the structure of the DEIS, where appropriate, we roughly divide discussion of impacts of activities at the terminal site from discussion of impacts relating to the pipeline project. However, as we explain, these impacts must be considered cumulatively, and some types of impacts are common to both portions of the project. As such, some issues primarily addressed in one section also apply to the other, and each section must be understood as incorporating the others.

II. JORDAN COVE LIQUEFIED NATURAL GAS TERMINAL

A. Geological Hazards.

The Cascadia Subduction Zone (CSZ) is located off the Oregon coast and extends from Northern California to Vancouver, B.C., where the oceanic Juan de Fuca and Gorda Plates meet the North American Plate. The zone widens from 60 km off southern Oregon to 150 km off the northern Olympic Peninsula in Washington. According to US Geological Survey's 2009 Earthquake

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Probability Mapping there is a 10% chance of a greater than 5.0 magnitude earthquake in the CSZ in the next 30 years. This probability increases as the years go on with a 20-25% chance in the next 50 years and a 30-40% chance in 100 years. A recent study based on 13 years of research finds that the Coos Bay area is more vulnerable than northern stretches of the CSZ, and concludes that there is a 40 percent chance of a major earthquake in the Coos Bay region during the next 50 years.¹ The study author, Chris Goldfinger, a professor at Oregon State University, states that “major earthquakes tend to strike more frequently along the southern end – every 240 years or so – and it has been longer than that since it last happened.”² Forecasts predict that the CSZ is due for an earthquake similar in strength to the 9.0 magnitude earthquake felt off the coast of Japan in March 2011. A high magnitude earthquake in this zone would create several different conditions that may severely impact the stability of the terminal and pipeline.

The Jordan Cove LNG Terminal will be constructed on dredged spoils. This poses a threat from earthquake liquefaction hazards which occur when water-saturated sediment is exposed to strong seismic shaking. The shaking causes the grains to lose grain-to-grain contact and the sediment acts as a fluid. Liquefaction is more likely in loose sandy soil with a shallow water table. Liquefied sediment layers may vibrate with displacements large enough to rupture pipelines, move bridge abutments, or rupture building foundations.

The Coos Bay area has a population of about 31,750 according to the 2010 Census. There are residential areas, businesses, and an airport all located within half a mile of the Jordan Cove site. A hazardous event at the site could seriously impact the safety and infrastructure of the surrounding area. The Jordan Cove site will include two large LNG storage tanks, the liquefaction terminal, pipeline connections, marine facilities, and a natural gas fueled power plant. Disruption of the site from earthquake or tsunami could compromise the integrity of any of these components and possibly lead to leaking of gas or LNG, disruption in power service to the local grid, gas explosion or other catastrophic event.

A recent study of large historic landslides along the Oregon coast indicates that they were most likely caused by a high magnitude earthquake occurring in the CSZ. A future earthquake could result in further movement of existing rockslides as well as formation of new rockslides along the coast. Landslides along the pipeline route could result in breakage or movement of the pipeline.

Despite these risk factors, the DEIS concludes that, “the site is not unsuitable due to tsunami hazards.” DEIS at 5-4. The DEIS recommends that further geotechnical studies (which have not yet been performed) and detailed designs of ground improvements be submitted to FERC for review and approval prior to construction. *Id.* It is unclear why FERC believes that the initial information presented by the applicant is sufficient to make the determination that the site is

¹ Goldfinger, et al., *Turbidite Event History – Methods and Implications for Holocene Paleoseismicity of the Cascadia Subduction Zone*, in EARTHQUAKE HAZARDS OF THE PACIFIC NORTHWEST COASTAL AND MARINE REGIONS, USGS PROFESSIONAL PAPER 1661 (Robert Kayen, ed.) July 17, 2012.

² Oregon State University Press Release, *13-Year Cascadia Study Complete – And Earthquake Risk Looms Large* (Aug. 1, 2012), Available at <http://oregonstate.edu/ua/ncs/archives/2012/jul/13-year-cascadia-study-complete-%E2%80%93-and-earthquake-risk-looms-large>

CO34 Continued, page 6 of 138

- CO34-1 Seismic-related impacts for the terminal are analyzed in section 4.2.1 of the EIS. Also see the extensive discussion of risks in section 4.13 and response to comment PM3-46.
- CO34-2 See the response to comment CO34-1.
- CO34-3 Landslide and earthquake effects are considered in section 4.2.2.2.
- CO34-4 The comment is correct, the DEIS recommends that further geotechnical studies and detailed designs of ground improvements be submitted to FERC for review and approval prior to construction. Please note that the EIS is not a decision document. It does not approve the project, or disapprove it. It only analyzes the environmental effects. As the DEIS notes, no LNG tanks were damaged in the Japanese earthquake and tsunami.

CO34-1

CO34-2

CO34-3

CO34-4

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

suitable for this project, given the proximity of the Coos Bay communities and infrastructure as well as the risks and probabilities of a major megathrust earthquake at this location.

While existing mapping and planning programs will provide communities with a better sense of what to expect in the event of an earthquake or tsunami, the 2011 Japanese tsunami is a prime example of the fact that even where planning programs and mitigation measures are in place for such a disaster, there are significant challenges to predicting the full extent of damage that may be caused by natural hazards. The DEIS does not adequately address the level of destruction possible at this location.

B. Safety Issues.

1. Spills

If LNG spills, it vaporizes. Because these vapors are heavier than air, they form a cloud close to the ground that will eventually dissipate. However, if an ignition source is present before the vapor cloud dissipates to less than 5% to 15% concentration, the vapor cloud can ignite and burn. The concerns expressed by many commenters about the risks of the pipeline extend beyond the possibility of catastrophic seismic events, to question the modeling and methods employed to understand the risks posed by vapor at the site. For example, on February 4, 2015, Senator Ron Wyden requested that FERC and PHMSA provide information to the public regarding the hazard modeling used to measure vapor cloud dispersion. This modeling is relevant to general spills but also to the possibility of a rupture or other spill resulting from tsunami or earthquake.

According to comments and analysis provided by professors of chemical and mechanical engineering Jerry Havens and James Venart, "the hazards attending the proposed operations at the Jordan Cove export facility could have the potential to rise, as a result of cascading events, to catastrophic levels that could cause the near total loss of the facility, including any LNG ship berthed there. Such an event could present serious hazards to the public well beyond the facility boundaries." See Havens & Venart Comment, Jan 14, 2015.

2. Other Safety Concerns.

The DEIS must consider the safety concerns authorizing a bidirectional LNG facility entails. These concerns include but are not limited to a siting and carrier analysis,³ risk and consequence assessment of potential LNG spills over water,⁴ and National Fire Protection Association

³ Consequence Assessment methods for Incidents Involving Releases from Liquefied Natural Gas Carriers. (May 13, 2004) ABSG Consulting Inc. for the Federal Energy Regulatory Commission. Available online at: <http://www.ferc.gov/industries/lng/safety/reports/cons-model.pdf>.

⁴ Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water. (December 2004) Sandia National Laboratories. Available online at: http://fossil.energy.gov/programs/oilgas/storage/lng/sandia_lng_1204.pdf.

CO34

Continued, page 7 of 138

CO34-5

The vapor modeling is discussed in section 4.13.5.3. The vapor model used in the analysis was reviewed by DOE and FERC engineers. Spills are addressed in 4.13.5.2. The potential for cascading events is analyzed in section 4.13.5.6.

CO34-6

Comment noted. Safety issues associated with the terminal and LNG tankers using the waterway and marina are addressed in section 4.13. Assessing all possible risks associated with the tankers on the Pacific Ocean is beyond the scope of the analysis.

CO34-4
continued

CO34-5

CO34-6

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 8 of 138

standards applying to LNG.⁵ And, local and international regulatory requirements from such organizations as the International Maritime Organization, U.S. Coast Guard and hosting Port Authority should all be assessed for their roles in mitigating risks of LNG. As citizen advocates, we take this opportunity to stress the simple, and easily overlooked, issue of safety due to the several serious domestic LNG accidents history has recorded. The DEIS states that few accidents have occurred in the U.S., but omits the following accidents:

- *Staten Island Tank Fire, USA, 1973.* A fire erupted at an out-of-service LNG tank that was being repaired. Forty workers then inside the tank were killed. LNG, which had leaked through the liner during previous fillings, had accumulated in the soil below and around the concrete tank wall berm. It has been assumed that an electrical spark in one of the irons or vacuum cleaners ignited the flammable gas reentering the tank.
- *Massachusetts Barge Spill, July 1974.* After a power failure and the automatic closure of the main liquid line valves, a small amount of LNG leaked from a 1-inch nitrogen-purge globe valve on the vessel's liquid header - pressure surge caused by the valve closure induced the leakage of LNG - caused another LNG accident.
- *Nevada Test Site, Mercury, NV, 1987.* An accidental ignition of an LNG vapor cloud occurred at the U.S. Department of Energy (DOE) Nevada Test Site in August 1987.
- *USA, March 2005. LNG Causes Pipeline Leaks* and house explosion. On July 7, 2005, a company-sponsored study, launched after a District Heights house exploded in late March, found that subtle molecular differences in the imported liquefied natural gas the utility began using in August 2003 were drying the rubber seals of aging metal couplings that link sections of pipe. The breakdown of seals in the couplings of gas pipelines led to about 1,400 gas leaks during the past two years, and has required the company to launch a \$144 million project to replace lines and equipment. Two other house explosions in the area are now under investigation.
- *Savannah, GA March 14, 2006.* A potentially disastrous spill was averted when the liquefied natural gas tanker Golar Freeze discharging its load at the Southern LNG terminal on Elba Island broke from its moorings and pulled away from the pier. The dock was shut down for about 36 hours while representatives from the Coast Guard and an LNG engineer from the Federal Energy Regulatory Commission investigated the incident.
- *LNG Tanker Adrift Off Cape Cod Needs Rescue February 11, 2008.* Coast Guard and tugboat crews rescued a liquefied natural gas tanker crippled off Cape Cod after many hours of drifting at sea at the mercy of powerful winds and high waves. Just 5-years-old, the fully laden LNG carrier was corralled by four tugboats about 25 miles east of Provincetown.

CO34-6
continued

CO34-7

CO34-7 None of these examples appear to involve a modern LNG export terminal. Rather than indicating that LNG export terminals are dangerous, they demonstrate how few incidents there have been with any segment of this large industry.

⁵ NFPA 59A: Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG), 2009 Edition. National Fire Protection Association. (Next edition 2012).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

C. Water Quality and Compliance with the Clean Water Act.

In addition to the significant alteration of the purpose of the project from import to export of natural gas, several important elements of the prior import project proposal have been altered in the current application. These changes include but are not limited to the following:

- Increase in number of LNG vessels from 80 per year to 90 per year;
- Addition of the 420-megawatt South Dunes Power Plant;
- New 1-mile, 150-foot wide utility corridor between South Dunes and terminal;
- New barge dock;
- Addition of 4 liquefaction trains to replace 6 vaporizers;
- Addition of refrigerant storage and resupply system;
- Redesign of control and administration buildings;
- New temporary work areas;
- Relocation of industrial wastewater line and raw water line;
- Addition of temporary workers camp in North Bend;
- Addition of the 8-acre Southwest Oregon Regional Safety Center; and
- Major pipeline route realignments and associated meter and compressor station changes.

Many of these changes result in additional and significant impacts to wetlands and waters of the United States. The applicants propose to dredge 5.65 million cubic yards of sediment across 53 acres of the Coos Bay estuary for the purpose of constructing a liquefied natural gas ("LNG") import terminal, slip dock and turning basin for the LNG tankers. The DEIS states that 38.0 acres of wetlands would be affected by the construction of the LNG terminal and facilities, with 35.6 acres permanently affected during operations. DEIS at 4-407. The project would cause a permanent loss of habitat due to maintenance dredging. Maintenance dredging will remove an additional 360,000 cubic yards during the first 10 years of the terminal operation, and 330,000 cubic yards of sediment during the second 10 years.

CO34-8

As discussed more fully below, the FERC may not grant a permit to the applicants because the State of Oregon has not and cannot certify that the project will comply with Section 303 of the Clean Water Act, which encompasses water quality standards adopted by the State of Oregon. In fact, the proposed project would do immense damage to water quality in Oregon. The proposed project would violate Oregon's anti-degradation policy by causing significant temperature increases in numerous stream segments, by causing significant decreases in dissolved oxygen levels in Coos Bay, and further degrading stream segments that are already water quality impaired for temperature, dissolved oxygen, pH, turbidity, and sedimentation.

CO34-9

The proposed project would violate Oregon's statewide narrative criteria by creating conditions deleterious to aquatic species, including Coho salmon (*Oncorhynchus kisutch*), green sturgeon (*Acipenser medirostris*) and eulachon (*Thaleichthys pacificus*); by permanently converting 6.8 acres of highly productive intertidal habitat to low productive deep-water habitat; by entraining and killing fish as LNG vessels uptake millions of gallons of engine cooling water; by discharging heated cooling water above ambient temperatures into Coos Bay; by killing and injuring aquatic life through ship-animal collisions (vessel strikes) and beaching (stranding) of

CO34 Continued, page 9 of 138

CO34-8 The effect of dredging loss of habitat is presented in section 4.6.2.2 and 4.6.2.3. Additionally the applicant has proposed permanent mitigation for the loss of habitat from the formation of the new access channel and berthing facility in the ratio of 3:1. Maintenance dredging does not result in loss of habitat and currently would equal less than five percent of the existing maintenance dredging. Impacts to wetlands are addressed in section 4.4.3.

CO34-9 If the Commission issues a Certificate of Public Convenience and Necessity for the project, the certificate would be conditioned on the applicant meeting all permit requirements. This is standard FERC policy. As an example, the Bradwood Landing LNG terminal in Oregon was granted a certificate by FERC but was not able to obtain the required state permits and was never built.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 10 of 138

animals in the vessels' wakes; and by permanently removing coastal riparian vegetation along Henderson Marsh and Coos Bay that is an essential component of the food chain for fish and aquatic life.

The proposed project would also violate Oregon's water quality standard for temperature by removing riparian vegetation that shades streams, causing stream heating along a minimum 95-foot wide construction easement. The proposed project would violate Oregon's water quality standard for turbidity by causing a more than 10% increase in natural turbidity levels in Coos Bay and stream segments impacted by pipeline installations. The proposed action would also impair beneficial uses to be protected in the Rogue, Umpqua and South Coast Basins by engaging in blasting activities that will adversely impact surface water and groundwater used for drinking, and by impairing commercial and recreational fishing in estuaries and adjacent marine waters in the South Coast Basin.

CO34-9
continued

The Coalition requests that the FERC not issue the Certificate of Public Convenience and Necessity because the CWA section 404 permit application is incomplete and contains insufficient and inaccurate data such that a decision cannot be made at this time, practicable alternatives to the project exist that have less adverse impact on aquatic resources; the project is contrary to the public interest; the project does not comply with the EPA and Corps' joint CWA § 404(b)(1) guidelines (hereafter "Guidelines"); the project violates Oregon water quality standards and § 401 implementation regulations; the project violates the Endangered Species Act ("ESA"), 16 U.S.C. §1531 et seq.; and the project is inconsistent with the Oregon Coast Management Plan and the Coastal Zone Management Act ("CZMA," 16 U.S.C. § 1451 et seq. Furthermore, the Coalition requests that FERC not issue the Certificate of Public Convenience and Necessity because the application for a CWA section 404 permit is incomplete, the project does not comply with Statewide Planning Goals, the project will harm the Coos Bay Estuary, and the project does not comply with applicable local, state and federal laws, including the CWA section 401 regulations and CWA section 404 Guidelines, and the CZMA.

CO34-10

Below, we summarize deficiencies in the discussion of the terminal's impacts on water quality. We separately discuss the pipeline's impacts on water quality in following sections.

1. Extent and Impact of Channel Deepening Projects

Dredging has the potential to change the hydrodynamics of Coos Bay in the long-term. The application fails to evaluate the project in conjunction with other proposed dredging in Coos Bay. For instance, the FERC is considering a massive channel-deepening project for Coos Bay, and the State of Oregon commented that some level of channel deepening will be required to accommodate LNG tankers, particularly if the LNG terminal is allowed to use larger tankers in the future. The State of Oregon commented on the DEIS to FERC in 2008:

CO34-11

Deepening of the existing federal navigation channel will be required to accommodate the vessels with capacities proposed to be received at the terminal. The significant volumes of material to be removed, the geomorphic adjustments to the bay and its tributaries precipitated by deepening the channel, and all the

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

potential impacts to water quality and beneficial uses must be included in the analysis of dredging for this proposal, particularly with regard to projected ongoing maintenance dredging.

State of Oregon DEIS comments at 50, Dec. 4, 2008.

Similarly, Oregon Department of Fish and Wildlife ("ODFW") noted that these issues were not adequately resolved in the 2009 FEIS:

In the FEIS, [Jordan Cove is] only considering the dredging at the slip and access channel into the slip as part of this project. ODFW continues to have concern over the potential ecological effects of future dredging (down to -51 feet mean lower low water and channel widening from 300 to 600 feet, plus widening the jetty opening) that is proposed to occur to further use the Port's facility ("Oregon Gateway Terminal"), even though the JCEP tenancy is not portrayed as associated with that level of dredging. Changes to salinity, ocean water exchange, water temperatures, flood/ebb rates, etc. may be expected to occur with additional deepening of the channel. Predictive modeling should be conducted to ascertain the potential impacts to the estuarine ecology from the anticipated >10 feet of additional depth from the current situation.

State of Oregon FEIS comments at 37, ODFW section, May 29, 2009.

The current DEIS again fail to address issues related to channel deepening in Coos Bay. Without remedying addressing these deficiencies in the DEIS, the 404 and 401 permits cannot be issued. The FERC must evaluate related and reasonably foreseeable channel deepening projects that might contribute to the impacts of the Jordan Cove project.

2. Extent and Impact of Haynes Inlet Removal and Fill

The applicants propose to install the 36-inch-diameter concrete weighted pipeline beneath Haynes Inlet by digging an 8-foot deep trench below the mudline with a clamshell dredge, placing excavated material adjacent to the trench, and replacing the material in the trench as backfill after the pipe is installed. The JPA estimates a total volume of approximately 150,000 cubic yards of excavated material, and states that "all of the excavated sediment will be reused as backfill; sediment will not be removed from the water or the project site." (JPA Stand Alone Document 1-5 PDF page 158). The DEIS fails to explain how the placement of sediment adjacent to the trench will not resulting turbidity discharges in Haynes Inlet. Further, the DEIS fails to explain how the full volume of excavated material can be replaced into the trench after installation of a 36-inch-diameter pipe that will occupy and displace a volume of approximately 0.26 cubic yards per foot of pipeline. With over two miles of pipeline crossing, this displacement leaves a considerable volume of excavated material that cannot be replaced in the trench. The JPA fails to address this inconsistency, or explain how or where this material will be disposed of.

CO34-12

CO34 Continued, page 11 of 138

CO34-12 Section 4.4.2.2 includes a discussion of the open water trenching planned for Haynes Inlet. Page 4-384 of the DEIS identifies that BMPs will be used to minimize turbidity, and water quality monitoring will be employed to meet ODEQ water quality criterion during construction.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The proposed action involves dredging that will decrease dissolved oxygen in Coos Bay because dredging increases the oxygen demand by disturbing sediments and releasing oxygen-demanding materials (decomposing organic materials contained within the sediments). As explained in the DEIS, "[r]esuspension of sediments during dredging operations can be a significant source of turbidity." DEIS at 4-360. Although the DEIS apparently concludes that turbidity increases will not be significant, it admits that "the hydraulic cutterhead dredge to be used by Jordan Cove would generate TSS levels up to a maximum of 500 mg/l in the vicinity of the dredge" and "maintenance dredging may result in a turbidity plume for up to 1.9 miles from the dredging location at highest ebb or flood currents." DEIS at 4-361.

CO34-13

Oregon DEQ previously expressed strong concerns about lowered dissolved oxygen levels that the proposed action would cause. In its 2008 DEIS comments, DEQ stated:

Total organic carbon, acid volatile sulfides, and nutrient sampling should be conducted to quantify the potential for adverse impact to oxygen levels caused by resuspension of sediments during dredging activities. Impacts should then be evaluated utilizing hydro dynamic modeling which can capture real time tidal conditions and simulate real time tidal exchanges during the period of the project.

State of Oregon 2008 DEIS comments at 63.

FERC must consider in deciding whether to certify the proposed action as complying with Oregon's water quality standards, is that construction dredging lowers dissolved oxygen levels in estuarine waters not only by re-suspending sediment, but by deepening an estuarine channel where *hypoxic conditions can occur due to reduced circulation in deeper waters*. Once the dredging is completed, there also is the potential for reduced circulation in the deeper portions of the approach channel. In combination with other factors, reduced circulation has the potential to result in lower dissolved oxygen levels in the deeper waters. The applicants must prove that actual hydrodynamic conditions in Coos Bay would not result in a 0.1 mg/L decrease in dissolved oxygen levels caused by reduced circulation in the deeper channel. The importance of impacts on dissolved oxygen is illustrated by Oregon's anti-degradation policy; impacts to dissolved oxygen risk violating this policy. OAR 340-041-0004(1), (3)(d).

CO34-13
continued

4. Extent of Completed Work

The DEIS states that no work has yet been completed on the proposed project. The DEIS fails to note the prior excavation and testing programs that have already been completed on the project site, including pile testing and ground improvement evaluation that involved significant excavation and movement of material at the terminal and South Dunes power plant sites.

CO34-14

5. Contaminated Soils at Terminal and Related Sites

The DEIS states that testing at the former Weyerhaeuser mill site indicated that concentrations of contaminants are below screening levels that would represent a risk to public health, and that

CO34-15

CO34 Continued, page 12 of 138

CO34-13 Section 4.4.2.2 includes a discussion of the open water trenching planned for Haynes Inlet. Page 4-384 of the DEIS identifies that BMPs will be used to minimize turbidity, and water quality monitoring will be employed to meet ODEQ water quality criterion during construction.

CO34-14 Section 4.3 discusses testing that was done in 2006 at the site, including twelve test pits between 4 to 9 feet deep that were excavated at the Ingram Yard, and two additional pits along the proposed eastern access road to the LNG terminal on the Roseburg property.

CO34-15 See the supplemental information submitted by Jordan Cove Energy Project, L.P. under CP13-483-000 on Feb. 3, 2015. This Supplemental Information filing concerns JCEP's Ingram Yard Test Pile and Ground Improvement Project. It is comprised of a February 2, 2015 letter to JCEP from its contractor, SHN Consulting Engineers & Geologists, Inc. (SHN), and twelve attachments. The letter summarizes the chronology of activities for the test project, in particular as related to contaminated soils and a buried septic tank. This information will be included in the FEIS. On February 3, 2015, Jordan Cove filed the results of its 2014 geotechnical testing program at the Ingram Yard. We will analyze those results in section 4.3 of the FEIS. Additional contamination sampling would be conducted by the ODEQ that has no relationship with the Jordan Cove-Pacific Connector Project. As stated in the EIS, work in the area of dredging would involve: "A qualified contractor familiar with handling potentially contaminated materials would be mobilized, and a dredge would be used to remove the basin sludge to a dewatering system. Potentially contaminated material would be transported off-site to an approved ODEQ-regulated facility that would be identified prior to construction." Work in the area of the mill property would involve: "The landfill Cell 3 located at the former Weyerhaeuser linerboard mill property is approximately 5.8 acres in extent. Approximately 2 acres remain unfilled. Jordan Cove plans to remove this landfill Cell 3 and relocate the materials to a qualified landfill site at the Columbia Ridge Landfill in Arlington, Oregon, managed by Waste Management. This would be a benefit to the Project and the overall site arrangement and would further protect the area and groundwater from this historically installed landfill. The landfill materials would be loaded in railcars and transported to the Columbia Ridge licensed existing landfill and properly disposed. This removal would be done in conjunction with the overall Mill Site Closure Plan that was approved by the ODEQ on July 22, 2013." In addition (as stated in the EIS), Jordan Cove has prepared an Unanticipated Hazardous Waste Discovery Plan that includes procedures in the case that signs of contamination are uncovered during construction activities.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

DEQ recommended "No Further Action" at this location. The DEIS explains that Jordan Cove would "cover the former mill site with clean sediments from the marine slip and access channel" to raise the elevation of those sites. DEIS at ES-6. This information is incorrect and incomplete.

According to DEQ's Environmental Cleanup Site Information (ECSI) Database, both the Ingram Yard property (ECSI 4704) and the Weyerhaeuser North Bend Containerboard Mill (ECSI 1083) sites contain levels of potentially bioaccumulating chemicals and "must not be placed in waters of the state" and are both listed as "Partial No Further Action" as of 2006. The DEQ reports acknowledge that the recommendation for no further action is contingent upon there being no "new or previously undisclosed information" becoming available.

On December 16, 2014, Barbara Gimlin, former Environmental Inspector at the Jordan Cove LNG terminal site and employee of SHN Consulting, submitted testimony to FERC regarding discovery of contaminants at the site during a March 2014 exploratory test program. (Comments attached). Ms. Gimlin describes her knowledge of discovery of contaminated soils along the Jordan Cove shoreline during a September 2013 cultural resources survey by Southern Oregon University Laboratory of Anthropology. Ms. Gimlin then describes her personal observations of excavations at the site exposing potential contaminants including "black soils (north to south in Ingram Yard, including near the shoreline), bright yellow granulated/powder found in clumps of varying sizes, gray gummy material found in clumps (likely related to hydraulic drilling conducted by GRI), and the exposure of an underground concrete storage tank punched through by heavy equipment with unknown liquid inside." These exposures occurred during the March 2014 Kiewit test program.

The description of exposure and discovery of potential contaminants at the site as recently as April of 2014 should be investigated further. This information, provided by an individual with personal knowledge and professional experience of the discovery of potential contaminants should be considered "new or previously undisclosed information" "which warrants further investigation." Given that the project calls for excavating and moving large amounts of soils from one area to another, to be used as fill for the South Dunes Power Plant location and other construction areas, the extent and condition of the contamination at these sites must be fully investigated, disclosed, and addressed to ensure contaminants do not reach waterways.

6. Impacts from Trenching through Coos Bay & Hayes Inlet

The applicants propose to install pipeline through Coos Bay over a 7-mile section, sidecasting material in the water without proposed turbidity control measures. After the pipeline is placed in the trench, the sidecast material will be used to backfill the trench. DEQ expressed concern that this activity in the waters of Coos Bay and the resulting suspension of large volumes of silty material over a long duration, will potentially result in exceedances of Oregon's turbidity standard. DEQ has repeatedly advised the applicants of the need for sediment evaluation in this area due to known contaminated sediments in Coos Bay. The applicants have responded that the sediments are suitable for backfill (Response to DEQ, June 2013) but has not provided information to address the impacts of suspended sediments as a result of trenching activities in

CO34-15
continued

CO34-16

CO34 Continued, page 13 of 138

CO34-16 Section 4.4.2.2 includes a discussion of the open water trenching planned for Haynes Inlet. Page 4-384 of the DEIS identifies that BMPs will be used to minimize turbidity, and water quality monitoring will be employed to meet ODEQ water quality criterion during construction.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

the bay. Without this information, DEQ cannot provide the requested certification of compliance with water quality standards.

DEQ also requested that the applicants develop alternative methods for dredging and containment of suspended sediments to meet the turbidity standard and prevent distribution of fine and/or contaminated material. The applicant's response discusses alternatives to the pipeline route, but did not provide a discussion of alternative methods for the pipeline trench dredging and containment of suspended settlement that would meet the turbidity standard or the allowable exceedance.

7. Stormwater Management Plan

The applicants submitted a NPDES 1200-C application in 2010. DEQ notified the applicants that critical details of long-term stormwater management are required. Specifically, DEQ requested information related to runoff from all impervious areas at terminal and pipeline facilities, docks, structures, pavements, roadways, and access and storage areas. DEQ asked that information related to the final pipeline and associate roadways be included in the detailed stormwater management plan. The applicants have not provided a detailed stormwater management plan including specifications for proposed treatment facilities sized to handle runoff from all contributing impervious surfaces.

NMFS expressed concerns regarding deficiency in stormwater management as proposed in the prior FEIS, and these concerns have not been resolved for the new project. As NMFS explained:

Stormwater from the Jordan Cove site will be discharged into Coos Bay. The FEIS says the water will be tested before being discharged, but does not say what contaminants will be tested for and what levels will be allowed to be discharged. There is no indication in the FEIS that FERC recognizes that stormwater carries heavy metals, petroleum products and brake chemicals and compounds that are deleterious to fish and fish habitat.

NMFS FEIS Comments at 2 (June 8, 2009). The current DEIS, like the previous documents, makes no mention of the potential for heavy metals. The DEIS states that stormwater in areas "potentially contaminated with oil and grease" will be collected, tested, and treated, but nothing indicates that what contaminants will be tested for, whether this testing will include heavy metals, or whether the treatment will be effective for the full range of possible contaminants. See, e.g., 4-362. Nor is there any discussion of whether stormwater that is not potentially contaminated with oil and grease has the potential to be contaminated with other pollutants.

In addition, given the known and potential soil contamination at various locations that will be disturbed for site construction, a stormwater management plan must be individually developed for each construction location, accounting for contaminants at each site, and adopting measures to ensure that contaminants are not transported to the shoreline or released into the waters of Coos Bay and nearby wetlands.

CO34-16
continued

CO34-17

CO34-18

CO34 Continued, page 14 of 138

CO34-17 See the requirement in Chapter 5 of the DEIS that the applicants submit a final stormwater management plan.

CO34-18 Stormwater would get contaminated by running through contaminated soil. The Erosion and Sediment Control Plan (i.e., Oregon Construction Storm Water Pollution Prevention Plan) is approved by ODEQ and Section 4.6.3 Solid Waste and Hazardous Material Management addresses controls to prevent contamination.

As stated in the DEIS Section 4.4.1.1 (Stormwater Runoff subsection), Jordan Cove would apply for a new NPDES permit for this discharge, and no untreated contaminated stormwater would be allowed to enter federal or state waters.

JCEP Resource Report 7 and the Soils section of the ADEIS discusses contaminated soils. ODEQ recognized that the residual contamination as the site is not present at levels that pose an unacceptable risk to human health, safety, welfare and the environment. ODEQ has recommended a "No Further Action" determination for the portion of the nonjurisdictional South Dunes Power Plant (former Weyerhaeuser linerboard mill) site as well as the area known as Ingram Yards. Soil samples from the slip area and sediment samples within Coos Bay adjacent to the slip and in the access channel were collected and analyzed and determined to be suitable for unconfined aquatic disposal. If necessary, JCEP will conduct any additional testing required by the regulatory permitting authorities for soils with in the slip area.

The JPA included Appendix L Contaminated Substances Discovery Plan (which was Appendix E in the POD) addressed the prevention of further contamination in the event of an unanticipated discovery of contamination soil, water or groundwater during construction of the PCGP Project.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

8. Sources and Impacts of Hydrostatic Testing

DEQ requested information from the applicants regarding the sources and discharge of testing water. In its response, the applicants stated that, "the hydrotest water source will be potable and raw water from the existing CBNBWB water lines." (Response to DEQ, June 2013). This information appears incomplete when compared to information provided in the DEIS, which includes a list of 14 potential hydrostatic testing source locations. DEIS 4-395, 4-396. The DEIS states that approximately 62 million gallons of water would be required to test the pipeline, yet the sources and disposal of this water are not fully determined. DEIS at 4-395. The DEIS provides only general information about the possible sources of water for testing, with no analysis of the impacts of proposed water withdrawals. Instead, the DEIS defers that analysis to a later time, stating that during any water rights permitting process, Oregon DEQ and ODFW could review water withdrawal applications to determine whether there are concerns about the impacts of water withdrawals on water resources. DEIS at 4-395.

The DEIS is equally vague in its discussion of the discharge of hydrostatic testing water:

During the test, it may be necessary to discharge water at each of the section breaks; however, discharges would be minimized and water would be conserved as much as practical by cascading water between test sections when feasible (pumping from one segment to the next). When discharged the test water would be released adjacent to the construction right-of-way through an energy dissipating device and a straw bale filter or sediment bag. Test water would not be discharged directly into surface waters. Pacific Connector would apply for permission to discharge the hydrostatic test water with ODEQ.

DEIS at 4-396.

The DEIS also states, "[w]here possible, test water would be released within the same basin from which it was withdrawn. However, cascading water from one test section to another to minimize water withdrawal requirements may make it impractical to release water within the same basin where the water was withdrawn in all cases." DEIS at 4-397.

These descriptions do not make clear whether hydrostatic test water will reach waterways. In fact, the maps of the pipeline route included in the DEIS Appendix C show in several places apparent discharge points at or very near waterbodies. Numerous Federal and State environmental and natural resource protection agencies have raised alarms about the lack of information about discharges associated with hydrostatic testing. In its 2008 DEIS comments, NMFS stated:

Discussion of hydrostatic test water within Section 2.4.2.1 explains that it will be discharged into upland settings. *However, the description implies that discharge water will run into waterbodies.* Explain whether this is true. *If water is allowed to flow out of the erosion control devices, across the ground and into waterbodies, adverse impacts to NMFS trust resources will be greatly increased and need to be detailed in the effects sections.* Furthermore, the applicant-

CO34-19

CO34 Continued, page 15 of 138

CO34-19 The hydrotest water source for the LNG tanks will be from the existing CBNBWB water lines, and the 14 potential hydrostatic testing source locations are for hydrostatic testing of the pipeline. Each of the sources will be evaluated during the water rights permitting process, and the EIS states that the impacts would not differ from using the existing water rights, because whether the original owner used the water, or the applicant used the water, the impacts would be the same.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

prepared draft biological assessment explained that metallic cations, oil, and grease were often elevated in discharge water. Please address the following concerns: (1) Potential discharge of chemicals from inside the pipe; (2) potential of introducing non-native species from a different basin; (3) potential of causing changes in small stream channels due to the increased flow; and (4) fish stranding due to quickly ramping flows up and then down. Discharging water in a manner to allow it to fully infiltrate into the ground would eliminate most of these concerns.

NMFS 2008 DEIS comments at 2-3 (emphasis added).

In its 2008 DEIS comments, Oregon DEQ was even more pointed about the lack of information provided about the proposed hydrostatic testing:

The above passages are vague and contradictory about whether hydrostatic test water will reach the surface waters are not. If hydrostatic test water will reach surface waters, the DEIS should have a complete listing of all hydrostatic test discharge points with the name of the receiving stream and location on that stream. The discharge of pollutants into a water quality limit water body would be very difficult if not impossible to permit. If the total maximum daily load has Arty been issued, the project would need to comply with the TM DL requirements.

If hydrostatic test water will not reach surface waters, the DEIS should have a complete listing of the infiltration areas. Such a list should include a location where the water would drain if it were released.

Hydrostatic test water cannot be discharged under the DEQ general storm water discharge permit.

State of Oregon 2008 DEIS comments at 67 (emphasis added).

9. Wastewater Treatment Facilities

The project includes proposed construction of a workers' camp in the City of North Bend. The camp would house up to 2,000 workers for the period of construction, over several years. Jordan Cove fails to explain how the existing wastewater treatment facility at North Bend will be able to handle the addition of wastewater produced at the workers' camp, or what alternative methods will be used to treat and manage wastewater from the camp.

CO34-20

10. The Proposed Action would Alter Wetlands that Perform Functions Important to the Public Interest.

The DEIS lists 19 "high value" wetlands that would be impacted by the project, including the Coos Bay estuary. DEIS Appendix N, Table N-2. However, the DEIS does not explain or justify the reasoning for limiting "high value" assessment to only these 19 wetlands. The FERC should

CO34-21

CO34 Continued, page 16 of 138

CO34-20 It is the responsibility of the applicant to make arrangements for connecting to the City's wastewater treatment facilities and make any required upgrades. Municipal wastewater discharge is regulated by local authorities not by FERC.

The North Point Workforce Housing Complex as proposed would connect to the City of North Bend sanitary sewer system through a new line. The facility would house up to 1,800 workers during the peak period of construction, which would last approximately 4 months. The City has reviewed the proposed temporary housing facility and approved a conditional use permit and variance--approved April 21, 2014, and an appeal of the decision was dismissed on May 27, 2014.

CO34-21 Page 4-414 of the DEIS lists the methods used to determine the location of high value wetlands. The Army Corps of Engineers (which regulates these wetlands and the determinations of high value) has agreed with the applicant's assessment of "high value."

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

consider whether the applicants have accurately assessed and evaluated wetlands within the project corridor for their ecosystem values under the relevant standards.

CO34-21
continued

The application fails to consider impacts to nearby wetlands from erosion, and other disturbances. Wetlands to the west of the slip are likely to be impacted, but ignored in the application. In addition, the estuarine wetlands provide a nursery for young salmon and other aquatic life. The combination of losing shallow water habitat from dredging and losing shallow water habitat from filling wetlands is a devastating blow to the estuary ecosystem. The DEIS must analyze the habitat loss of the dredge and fill cumulatively. The wetland fill will also degrade habitat utilized by birds, amphibians, mammals, and invertebrates.

CO34-22

Jordan Cove states that it will mitigate the impacts to the species affected by destruction of habitat through its Mitigation Plan. Nonetheless, the Mitigation Plan will be insufficient to mitigate the adverse impacts of filling the wetlands. The filling of the wetlands and their resulting destruction will be certain, permanent, and imminent. In contrast, the measures to be implemented in the Mitigation Plan and the effectiveness of such measures are highly uncertain. Even the DEIS admits that the Mitigation Plan fails to explain how it would compensate for impacts to wetlands associated with the Southern Oregon Response Safety Center, and does not adequately demonstrate avoidance and minimization techniques. DEIS at 4-410.

CO34-23

Furthermore, even if the measures of the Mitigation Plan are successfully implemented, the benefits from the measures may accrue slowly while the endangered and threatened species are put in further jeopardy by a lack of essential habitat. For example, the DEIS categorizes as "temporary" impacts those that may recover within three years. Three years of degraded and lost habitat within the Coos Bay estuary could have significant effects on benthic habitat, water quality, and the aquatic organisms that depend on these areas for survival. The DEIS should take these factors under consideration and require the applicants to provide a more thorough analysis concerning the effectiveness of the Mitigation Plan.

11. The Application Fails to Incorporate Practicable Steps that will Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem.

Under 40 C.F.R. § 230.10(d):

Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

a. Failure to Avoid Impacts

First and foremost, the application fails to demonstrate what efforts have been made to avoid impacts to wetlands. Instead, the DEIS focuses on explaining mitigation efforts to address impacts to wetlands and waters of the U.S.

CO34-24

CO34 Continued, page 17 of 138

CO34-22 Section 4.4 addresses direct and indirect impacts to wetlands. Section 4.6 addresses impacts to wildlife species and habitats used by those species, including wetlands. Wetland impacts are further addressed in the Joint Permit Application.

CO34-23 The Army Corps of Engineers and ODSL are currently working with the applicant on wetland mitigation requirements. Per the requirements of the Clean Water Act, the applicant will have to demonstrate that all impacts to wetlands are avoided or minimized to the extent practical as part of the 404 and 401 permitting process. These agencies can then require mitigation to compensate for any permanent impacts.

CO34-24 As described in the EIS, the project was routed to avoid impacts to sensitive resources including wetlands. Also as described in the EIS, the applicant would have to file an application with the Army Corps (i.e., an agency that is a cooperator on this EIS) which demonstrates to the satisfaction of the Army Corps that all impacts to wetlands have be avoided or minimized to the extent practical.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

EPA describes the mitigation sequencing as follows:

In 1990, the Environmental Protection Agency (EPA) and the Department of Army entered into a Memorandum of Agreement (MOA) to clarify the type and level of mitigation required under Section 404 regulations. The agencies established a three-part process, known as mitigation sequencing to help guide mitigation decisions:

1. Avoid - Adverse impacts are to be avoided and no discharge shall be permitted if there is a practicable alternative with less adverse impact.
2. Minimize - If impacts cannot be avoided, appropriate and practicable steps to minimize adverse impacts must be taken.
3. Compensate - Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain.

EPA, *Wetlands Compensatory Mitigation*, available at <http://www.epa.gov/owow/wetlands/pdf/CMitigation.pdf>.

The 1990 Memorandum of Agreement Between the Department of the Army and the Environmental Protection Agency describes the legal requirements:

Avoidance. Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative. The thrust of this section on alternatives is avoidance of impacts. Section 230.10(a) requires that *no discharge shall be permitted if there is a practicable alternative* to the proposed discharge which would have less adverse impact to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. In addition, Section 230.10(a)(3) *sets forth rebuttable presumptions* that 1) alternatives for non-water dependent activities that do not involve special aquatic sites are available and 2) alternatives that do not involve special aquatic sites have less adverse impact on the aquatic environment. *Compensatory mitigation may not be used as a method to reduce environmental impacts* in the evaluation of the least environmentally damaging practicable alternatives for the purposes of requirements under Section 230.10(a).

MOA, 1990 (emphasis added).

Jordan Cove flips this sequence on its head by siting the terminal and pipeline where it will have tremendous adverse impacts, but then attempting to mitigate those impacts. For example, the pipeline is routed through Coos Bay affecting 76.3 acres in Hayes Inlet, as well as creating 2.5 miles of pipeline disturbance. DEIS at 4-414. As the MOA states, compensatory mitigation may not be used as a method to reduce environmental impacts.

b. Failure to Adequately Identify and Explain Mitigation Plans

Second, the JPA and DEIS do not adequately describe or explain proposed minimization and mitigation measures. Notably, two different compensatory wetland mitigation plans are included

CO34-25

CO34

Continued, page 18 of 138

CO34-25

It is the COE's responsibility to ensure that impacts to waters of the U.S. are mitigated. Any approval from FERC would be conditioned on the applicant meeting COE requirements. The use of BMP are a standard mitigation method for construction projects. The specifics of the methods are referenced to the many documents developed specifically for the project or the standard practices used. Additionally there will be local state and federal agency permitting process, that the applicant will need to comply with, that address the specifics or exceptions to the plans as deemed necessary by the local, state and other federal permitting agencies.

Discussion of the Ingram Yard in the EIS (see pages 4-300 to 4-301) includes reference to disposal of materials from industrial activities (and not only discussion of disposal of dredge spoil). See the supplemental information submitted by Jordan Cove Energy Project, L.P. under CP13-483-000 on Feb. 3, 2015. This Supplemental Information filing concerns JCEP's Ingram Yard Test Pile and Ground Improvement Project. It is comprised of a February 2, 2015 letter to JCEP from its contractor, SHN Consulting Engineers & Geologists, Inc. (SHN), and twelve attachments. The letter summarizes the chronology of activities for the test project, in particular as related to contaminated soils and a buried septic tank. This information will be included in the FEIS. On February 3, 2015, Jordan Cove filed the results of its 2014 geotechnical testing program at the Ingram Yard. We will analyze those results in section 4.3 of the FEIS. BMPs and mitigation measures, as presented in the EIS, are as specific as possible for this stage of the Project. Mitigation measures would be specified in detail in the final engineering design. BMP discussion has been supplemented throughout the EIS with more specific mitigation discussions where necessary - for example in relation to stream scour, etc. Jordan Cove has prepared an Unanticipated Hazardous Waste Discovery Plan that includes the following measures that would be implemented in the event that unanticipated soil contamination is discovered during construction of the LNG terminal facilities.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

in the full JPA. Both are dated October 2014, but it is not clear which is the final plan. In addition, two additional CWM plans were submitted to the Oregon Department of State Lands. The FERC and the public must be able to identify the final plan for mitigation in order to evaluate its components. The DEIS also contains misleading statements and missing information. For example, the DEIS states that the former Mill Site (which includes Ingram Yard) was “used only for dredge spoil disposal.” This is incorrect and misleading. The site is listed as a clean up site by Oregon DEQ due to previous disposal of mill wastes on the property. The full extent of the wastes and contamination on the property is not yet known. In addition, the DEIS mitigation plans lack specificity and detail to demonstrate compliance with applicable standards. For example, the DEIS references the erosion control plan contained Resource Report 2 as a measure to minimize impacts. This plan is not site specific and fails to disclose specific information for adequate evaluation of the mitigation designs and procedures to be used mitigating these environmental impacts. The FERC and the public cannot possibly evaluate the effectiveness of any mitigation plans proposed by Jordan Cove without the specifics of the plans. Simply stating that Best Management Practices (“BMPs”) will be used is insufficient for evaluation of mitigation measures specific to each site. This listing of BMPs to be used is inadequate for a proper analysis of the effectiveness of the proposed sediment control measures.

The mitigation plans lack, among other things:

- Specific information regarding the water quality and habitat impacts of the improvements to roads;
- Design specifics used to justify the incomplete ESC;
- An assessment of increase in impervious surfaces resulting from road improvements, and how surface flow runoff will be affected by said road improvements. The FERC should evaluate the effects of greater impervious areas and changes in storm water drainage dynamics resulting from road widening and construction, and also evaluate the potential from increased pollutants entering Henderson Marsh and Coos Bay from resulting increased storm water runoff;
- Analysis of the potential for releasing contaminants from the soil during road construction. The FERC should require Jordan Cove to provide a plan on dealing with any soil contaminants encountered during road construction activities and analyze the possible environmental effects from the release of any such contaminants.

The description of a general BMP without site-specific considerations is worthless to the public, and the FERC, for proper evaluation of the measures to be used for mitigation of environmental impacts caused by construction activities.

c. Failure to Compensate for Impacts to Wetlands

Third, even if Jordan Cove were properly avoiding adverse impacts, the mitigation does not adequately compensate for the damage. The 76 acres of prime estuarine salmon habitat that would be destroyed are irreplaceable. In addition, adequate mitigation must replace habitat values with “in-kind” and “in-place” habitat. The MOA states:

CO34-25
continued

CO34-26

CO34 Continued, page 19 of 138

CO34-26 The applicant would supply mitigation for the lost shallow water habitat at the ratio of 3 to one in Kentuck Slough (see Section 4.6.2.2). The habitat would be similar to that lost and it is located in proximity to the area lost in Coos Bay. The formation of the slip would increase the deep water habitat in the Bay above what is currently present.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Generally, in-kind compensatory mitigation is preferable to out-of-kind. There is continued uncertainty regarding the success of wetland creation or other habitat development. Therefore, in determining the nature and extent of habitat development of this type, careful consideration should be given to its likelihood of success.

MOA, 1990.

There are multiple problems and deficiencies in the mitigation proposed for Coos Bay, Kentuck Slough, the site of proposed intertidal flats mitigation, contains obstacles to successful mitigation that have not been addressed in the DEIS. Kentuck Slough was historically a five-mile tidal inlet that was filled to create a golf course and other land uses over time. Recently in 2007, the Kentuck Slough Bridge was replaced, and a new tide gate was installed. The tide gate replacement was designed to prevent additional intrusion of salt water into the adjacent land via groundwater flow. Saltwater intrusion had been negatively affecting the quality of soil during summer months, when limited freshwater inflow failed to adequately dilute the salt water from the bay. The tide gate replacement was the result of special hydraulic design to understand the hydrologic conditions and tidal flow. According to the mitigation plan, that new bridge and tide gate would be removed. The mitigation plan does not address the issue of saltwater intrusion to adjacent lands and soils via groundwater. The mitigation plan likewise does not address flooding issues, impacts to private property, or potential increases in mosquito populations related to the proposed mitigation at this site. Already, farms and homes to the north and west of the Kentuck Slough channel frequently flood during heavy rains. These flood impacts, including stage, velocity, and duration, have not been addressed in the mitigation plan. These flooding impacts should be evaluated including increasing sea level and storm surge projections for the area.

In addition, current and historical land uses in the area may have created conditions detrimental to successful recreation of this estuarine habitat. For example, the former golf course at this site likely used fertilizers, pesticides and herbicides, and other chemical additives that would likely be mobilized by the restoration project. These potential contaminants have not been addressed in the mitigation plan. In addition, an existing quarry located upstream of the mitigation site (Main Rock Products, Inc.) has been filling wetlands along the channel, that would limit the effectiveness of the project's intent to reconnect estuarine and freshwater habitat. The DEIS fails to address or explain how these features are likely to impact the proposed mitigation at this site.

The reopening of the Kentuck channels is likely to cause complex and dynamic flow pattern alterations. The plan design must account for increased flows, tidal channels, and flooding impacts. The FERC should require the applicants to prepare a hydrodynamic model that clearly researches and addresses the capacity and flow dynamics likely to occur as a result of the proposed channel restoration. This should include monitoring upstream of the proposed mitigation site and be based, at minimum, on tidal data, storm surge, stream velocity, flow capacity and projected long-term sea level rise. The explanation of existing hydrology does not include adequate data to support its conclusions about inundation occurrences and conditions.

The applicants also propose creation of new eelgrass habitat to compensate for the loss of high quality benthic habitat at the terminal site. The DEIS fails to adequately evaluate and explain the

CO34-27

CO34-28

CO34 Continued, page 20 of 138

CO34-27 Appropriate wetland mitigation is the responsibility of the COE.

CO34-28 The proposed eelgrass beds are in a location that has had restoration of eelgrass in the past. Additionally the applicant has will monitoring of the sites to insure restoration is successful and committed to meeting these obligations to meet this mitigation requirement (see Jordan Cove Energy Project - Compensatory Wetland Mitigation Plan Overview [Federal Permitting] prepared for Jordan Cove Energy by David Evans and Associates April 2014). If the efforts are not successful, they would be require to continue implementation and mitigation until success criteria are met.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

likelihood of successful eelgrass habitat creation at the proposed mitigation site. For example, siltation and sedimentation can greatly impact the effectiveness and longevity of eelgrass restoration projects. The applicants have not evaluated the conditions of the chosen site for likelihood of long-term success.

As discussed above, the applicants have yet to file a Biological Assessment, and formal consultation with NMFS has not yet been initiated. Previously, NMFS highlighted the inadequacies of the 2008 Draft Compensatory Mitigation Plan:

The compensatory mitigation plan is a draft document that will need to be negotiated and approved by multiple entities. It is reasonably likely that the final approved plan will be significantly different from the draft supplied in the BA. Until the plan is finalized, the effects of the mitigation actions, both adverse and beneficial, cannot be accurately assessed in the BA or analyzed by NMFS in a biological opinion. In the absence of a final mitigation plan that identifies non-discretionary commitments for mitigation, NMFS cannot assume mitigation will occur. Provide a final mitigation plan.

NMFS 2009 BA comments at 5.

At this point, without even a BA to review, let alone a final mitigation plan, the FERC, other reviewing agencies, and the public cannot assume mitigation will occur.

When discussing the total acres of wetlands that would be permanently filled by the Pacific Connector, the numbers in the Compensatory Wetland Mitigation Plan (CWMP) do not match those detailed in the DEIS. The DEIS states that 1.48 acres will be destroyed, yet the CWMP proposes to mitigate for only 1.42 acres.

The CWMP is only proposing mitigation for what the applicants consider permanent impacts of the Pacific Connector (either 1.48 or 1.42 acres depending on the source). There remains an additional 238.96 acres of wetlands to be impacted in a temporary fashion. Given the sheer number of acres to be impacted and the various Cowardin classes affected, there are concerns that some of the temporary impacts may cause permanent removal of vegetation to cause a shift of these wetlands Cowardin class and thus to their functions and values.

The proposed mitigation site detailed in the Pacific Connector CWMP is well outside the watershed of many of the wetland areas that would be permanently destroyed by the project. The proposed mitigation site is located within the Coos subbasin (HUC 17100304) between Glasgow and Cooston. However, many of the impacts would be located not only in Coos but also in Coquille (HUC 17100305), South Umpqua (HUC 17100302), Upper Rogue (HUC 17100307), Upper Klamath (HUC 18010206) and Lost (HUC 18010204) sub basins.

33 C.F.R § 332.3 (b)(1) and other portions of part 332.3 direct that, "the *required compensatory mitigation should be located within the same watershed as the impact site*, and should be located where it is most likely to successfully replace lost functions and services, taking into account such watershed scale features as aquatic habitat diversity, habitat connectivity, relationships to

CO34-28

CO34-29

CO34-30

CO34

Continued, page 21 of 138

- CO34-29 The CWMP is the applicant's proposal, not necessarily what will be required by FERC and the COE. See the requirement in 4.4.3.1 that the applicant file a Wetland Mitigation Plan after consultation with ODSL, ODEQ, COE and other appropriate resource agencies prior to construction.
- CO34-30 As stated in section 4.4.3.2 of the DEIS, COE, ODEQ, and ODSI had not commented on the applicant's plan.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

hydrologic sources..." (emphasis added). The proposed mitigation site is located well outside the watershed for many impacted site, and can not reasonably replace those lost functions and values in the watershed.

CO34-30
continued

To further alter the functions and values that would be provided by the mitigation site, the mitigation site may transition to salt water marsh in the future. The CWMP states in section 4.5 "Essentially, since the mitigation site is believed to occur at a transition zone between salt marsh and freshwater wetland, it would be acceptable if portions of the vegetation in the freshwater site proposed in this CWM are altered by future salt marsh restoration. These natural adjustments would mimic historic conditions, would provide good habitat for wildlife, and would not be counted against the CWM Plan Objectives following the initial five -year establishment period." While it may mimic historic conditions at the mitigation site before conversion to a golf course, it would in no way mimic conditions at the sites this is intended as mitigation for along the proposed pipeline route in upstream freshwater habitats in other watersheds.

CO34-31

Watersheds to be affected contain species found in some, but not in others that have relationships to wetlands or the waterways they are connected to. In the case of SONCC Coho salmon, or the Lost River Sucker, neither is found in the Coos subbasin, nor would the freshwater components of their resident subbasins be effectively replaced by mitigation in the Coos subbasin, nor with saltwater marsh.

CO34-32

33 C.F.R. § 332.3 states that not only should the mitigation site provide desired functions, but should specifically consider ESA listed species and the relative locations of mitigation and impact sites in a stream network. "The compensatory mitigation project site must be ecologically suitable for providing the desired aquatic resource functions. ... the district engineer must consider, to the extent practicable, the following factors:

(v) Reasonably foreseeable effects the compensatory mitigation project will have on ecologically important aquatic or terrestrial resources (e.g., shallow sub-tidal habitat, mature forests), cultural sites, or *habitat for federally- or state-listed threatened and endangered species*; and

(vi) Other relevant factors including, but not limited to, development trends, anticipated land use changes, habitat status and trends, *the relative locations of the impact and mitigation sites in the stream network*, local or regional goals for the restoration or protection of particular habitat types or functions (e.g., re-establishment of habitat corridors or *habitat for species of concern*), water quality goals, floodplain management goals, and the relative potential for chemical contamination of the aquatic resources."

33 C.F.R. § 332.3(d)(1) (emphasis added).

Due to the extremely large quantity of supposedly temporary impacts (238.96 acres), it would be more than appropriate for the district engineer to require both additional mitigation, and the start of mitigation before project construction to offset temporal impacts due to the loss of wetlands during construction and the recovery period. "Implementation of the compensatory mitigation

CO34-33

CO34 Continued, page 22 of 138

CO34-31 It is the COE's DSL and ODEQ's responsibility to ensure that impacts to waters of the U.S. are fully mitigated. Any approval from FERC would be conditioned on the applicant meeting COR requirements. The COE, DSL, and ODEQ are currently reviewing the proposed wetland mitigation plan and may require additional measures.

CO34-32 It is the COE's DSL and ODEQ's responsibility to ensure that impacts to waters of the U.S. are fully mitigated. It is the responsibility of the FWS and NOAA to ensure that impacts to ESA listed species are fully mitigated. The COE, DSL, ODEQ, FWS, and NOAA are currently reviewing the proposed wetland mitigation plan and wildlife mitigation plans to ensure that they adequately mitigate for impacts to wildlife and wetlands. These agencies may require additional measures.

CO34-33 Comment noted. The COE will make this determination.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 23 of 138

project shall be, to the maximum extent practicable, *in advance of* or concurrent with the activity causing the authorized impacts. The district engineer shall require, to the extent appropriate and practicable, *additional compensatory mitigation to offset temporal losses* of aquatic functions that will result from the permitted activity” 33 C.F.R. § 332.3(m) (emphasis added).

CO34-33
continued

D. Impacts to the Oregon Dunes ecosystem.

The Jordan Cove proposed LNG Terminal and Power Plant will require a tremendous amount of water to operate, 1.7 billion gallons during construction and 184 million annually for operations. This project is immediately adjacent to the Oregon Dunes National Recreation Area, which could be impacted by these water needs.

The project’s water will be provided by the Coos Bay North Bend Water Board (CBNBWB) from groundwater wells on the North Spit near the project area . The DEIS confirms (4-346) that the water wells used by the Project withdraw “water from the Dune-Sand Aquifer.... Use of water from the CBNBWB wells for project construction and operation may temporarily lower groundwater levels in the wells.” In scoping, FERC was asked to consider the impact of using these wells on the Oregon Dunes ecosystem , but the DEIS failed to address this issue.

CO34-34

The DEIS admits that “Water levels at the CBNBWB well that is closest to the LNG terminal (well #46 located 3,500 feet north) may drop as much as 0.5 feet”, DEIS 4-347, but failed to consider what that drop would do to lakes and wetlands, even the wetlands in the proposed mitigation site (Parcel P) next to well #46.

The Oregon Dunes National Recreation Area (ODNRA) is a sensitive ecosystem that contains Globally Significant Plant Communities, including rare vegetation dependent on wetlands, pools and lakes. The water withdrawals for the adjacent Jordan Cove project will impact the Dunes plant, fish and wildlife ecosystems.

Studies of the Oregon Dunes have found that groundwater wells near the southern edge of the Dunes could be drying up the natural lakes and wetlands in the Dunes.

FERC failed to consider the findings of this study, even though it was submitted during scoping: “The well field in the Horsfall area, at the south end of the Recreation Area, is being studied to monitor changes in groundwater levels, and its potential effects on wetlands. Sustained pumping of groundwater may alter extent and composition of seasonal or perennially-flooded wetlands. If dewatering is sustained over a period of years, shallow lakes may be replaced by dry or seasonally-wet associations typical of deflation plains. Because sand is highly permeable, excessive pumping may also cause pollution of groundwater by infiltration of salt water, sewage, fertilizers and pulp mill wastes.”

The “south end of the Recreation Area” is adjacent to the proposed Jordan Cove terminal. Horsfall area is less than one-mile north of Jordan Cove. Horsfall and Beale Lake are highly protected for wildlife within the Dunes, yet groundwater used to supply the water needs of this project could degrade them.

CO34-34 As stated in Section 4.4.1.1, construction of the LNG terminal site would require approximately 1.9 mgd, which is within the amount CBNBWB stated it could provide (4 mgd). Text has been added to clarify that the 4mgd capacity is permitted by USFS and protects aquatic and terrestrial resources within the ODNRA.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 24 of 138

The Dunes study details some valuable plants that could be lost, page 8:

These lakes are unique because of their large size and extensive aquatic bed and emergent plant associations, dominated by pond lily, floating-leaved pondweed, water-shield and hardstem bulrush. Several lakes contain water clubmoss, an uncommon plant species, and extensive populations of the insectivorous bladderwort. The lakes host large concentrations of waterfowl during the migration season.

The study warns: "Groundwater pumping in the wellfield in the Horsfall area may be lowering the water table, threatening the long-term viability of these lakes."

This is exactly where well #46 is, and other wells to be used by the Jordan Cove Project. This study continues:

The groundwater drains into lakes, streams, North Slough and the ocean. Winter precipitation elevates the watertable... The seasonal rise in water table also causes vernal pools to form... These pools are teeming with invertebrates and are temporary sources of food and breeding grounds for amphibians and migrating waterfowl.... Groundwater pumping on the North Spit of Coos Bay has raised concerns about year-round depression of the water table, dewatering valuable wildlife habitat and possibly altering plant succession at these sites.

The Dunes study emphasized that "Pumping of groundwater for municipal use may be causing the water table to drop in some areas of the Recreation Area, and may hasten invasion of upland species." Therefore, the billions of extra gallons needed by the Jordan Cove project will have significant impacts to the invasion of upland species.

The Dunes Study specifically points to the area just one mile north of the LNG project site, where the DEIS confirms Jordan Cove will be getting water. While the study recommends that "Groundwater pumping in the vicinity of Horsfall Lake and Beale Lake needs to be monitored to determine if it is detrimental to the plant associations there," no monitoring was offered in the DEIS.

The Oregon Dunes is a critically important and unique habitat for plants and wildlife. The 1994 Oregon Dunes Plan says this "is a rare and beautiful place. The uniqueness and variety of this extensive system of dunes, streams, freshwater lakes, wetlands, and coastal forests on the shores of the Pacific Ocean, make it a world-class attraction."

In 2003 botanist from Oregon Natural Heritage Information Center did a plant inventory of the Dunes just north of Beale and Horsfall Lakes. As a result, they nominated areas of the Dunes as Oregon Heritage Sites. They found a number high quality, rare and important plant communities. They said some of the globally significant areas represent some of the rarest and most endangered plant communities in Oregon. Large and intact examples of plant communities, like those found on the Dunes, are "quite rare", with some "ranked as threatened throughout their range" Some are only known from the Oregon Dunes National Recreation Area. They called this area "a high priority for conservation."

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The 1998 Dunes study described several lakes, vernal pools, and seven of these native plant associations that are in danger due to groundwater pumping for the cities of North Bend and Coos Bay, and maybe for the LNG Terminal and Power Plant. Since the LNG Terminal and Power plant will use the groundwater from this area, the DEIS should have considered the impacts to these very sensitive, rare, and unique ecosystems adjacent to the Jordan Cove site.

Although the DEIS purports to discuss mitigation of these impacts, this discussion is inadequate. The proposed measures will be inadequate to mitigate the impacts. Mitigation for 178 tetrapod species (amphibians, reptiles, birds, and mammals), 151 seasonal or year-round bird species in the Project site, in addition to migratory birds is needed. "Twenty-nine federal or state-listed threatened or endangered species, and one proposed species, potentially occur in the proposed Project area." Mitigation for these impacts is described in Appendix S, the Wildlife Habitat Mitigation Plan, including Parcel P, the Panhandle site. Parcel P is 105 acres of Dunes purchased by Jordan Cove, and is surrounded on 3 sides by Dunes managed by the Siuslaw National Forest.

Parcel P, or the Panhandle site, has several problems as a mitigation site. For instance, Jordan Cove does not offer to restrict motorized recreation on the site. The DEIS tells us that "JCEP intends to allow for public use and enjoyment" with no mention of restricting motorized access. Motorized recreation is very popular in the Dunes, and most wildlife being mitigation at the terminal site is also threatened by motorized recreation.

The Panhandle site is surrounded on three sides by the Oregon Dunes managed by the Siuslaw National Forest, who closed this area to motorized recreation in 1994. While not part of the Oregon Dunes National Recreation Area (ODNRA), it is still managed under the Dunes Plan, and is designated as "10A – Non-Motorized undeveloped".

JCEP claims "Mitigation at the Panhandle would also expand existing protection of the adjacent ODNRA lands." It is unclear if this statement by JCEP means they will restrict motorized use. It has been difficult for the USFW to enforce as non-motorized use. In google earth, we can see OHV trails also crisscross the Panhandle mitigation site. If motorized use will be restricted, Jordan Cove should describe how that would be accomplished.

One proposed mitigation of the Panhandle site is to apply herbicides to 1.8 acres of European beachgrass and Scotch broom to return it to an unvegetated site. This method has the potential to pollute wetland sites, and to impact wildlife if not applied with the correct method and time of year. The mitigation plan failed to provide these details.

The DEIS says (2-21): "The CBNBWB obtains water from groundwater wells on the North Spit.... It has two raw water lines on the North Spit. ... (see figure 2.1-10). The second raw water line extends from a well field west of the proposed terminal and north of the Trans-Pacific Parkway to a water treatment plant."

Figure 2.1-10 shows that this waterline begins within the Panhandle mitigation site, and travels south, out of the mitigation site and crosses the Trans-Pacific Parkway. Jordan Cove proposes to install two taps on this line, one dedicated to replenish the fire water ponds, and the other to

CO34 Continued, page 25 of 138

CO34-35 Comment noted. In addition to the mitigation proposed by the federal land management agencies and other mitigation proposed by the applicant, the FWS will determine the required mitigation for listed species and migratory birds.

CO34-36 This has been clarified in the FEIS.

CO34-37 As stated in Section 4.4.1.1, construction of the LNG terminal site would require approximately 1.9 mgd, which is within the amount CBNBWB stated it could provide (4 mgd). Text has been added to clarify that the 4mgd capacity is permitted by USFS and protects aquatic and terrestrial resources within the ODNRA.

CO34-35

CO34-36

CO34-37

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

provide water for portable and utility requirements once the terminal is in operation. However, the DEIS failed to consider the impacts to the wetlands in the mitigation site, by withdrawing water from the mitigation site for the fire ponds.

CO34-37
continued

E. Impacts to Fish, Wildlife, and Sensitive Species

As of February 13, 2015—the last day of the DEIS comment period—no Biological Assessment had been released, and formal consultation with NMFS and USFWS has not yet been initiated for any portion of this project. As a result, the wildlife agencies have not yet had an opportunity to provide comments or assessments of the impacts of the current project proposal on listed species and critical habitat. The Corps must formally consult with the wildlife agencies NMFS and USFWS. Because this information was not publicly available and consultation has not occurred, FERC must deny the application for a Certificate of Public Convenience and Necessity.

CO34-38

In their review of the Biological Assessment for the previous iteration of this project, multiple agencies expressed concern regarding the lack of information provided. For instance, NMFS requested further information and consultation for green sturgeon based on potential dredging impacts. NMFS informed FERC: “Disturbance of substrate from project construction and biennial maintenance dredging, along with disposal at the Coos Bay ocean dredged material disposal site (Site F), will modify habitat and reduce safe passage by causing direct adverse physical effects due to physical entrainment in the discharge plume.” NMFS BA comments at 2.

Additionally, according to the DEIS, the project is likely to adversely affect the following species listed under the ESA:

- Threatened Marbled murrelet, DEIS 4-636 to 4-637
- Threatened Northern spotted owl, DEIS 4-639 to 4-640
- Threatened Coho salmon (SONCC), DEIS 4-642.
- Threatened Coho salmon (Oregon Coast ESU), DEIS 4-643 to 4-645
- Threatened North American green sturgeon (Southern DPS), DEIS 4-647
- Endangered Lost River sucker, DEIS 4-650,
- Endangered Shortnose sucker, DEIS 4-642,
- Threatened Vernal pool fairy shrimp, DEIS 4-656.
- Endangered Applegate’s milk-vetch, DEIS 4-659
- Endangered Gentner’s fritillary, DEIS 4-660,
- Endangered Large-Flowered Meadowfoam, DEIS 4-662, and
- Threatened Kincaid’s lupine, DEIS 4-665

Again, this list is not the result of a final Biological Assessment or any formal consultation and review by the wildlife agencies NMFS and USFWS. As a result, the DEIS appears to conclude that the project is “Not Likely to Adversely Affect” several other listed species without adequate analysis or explanation of those conclusions. For example, the DEIS states that the project is not likely to adversely affect the endangered Grey wolf. This species has only recently reoccupied Oregon lands west of the Cascades, with a single male wolf (known as OR-7) now known to have mated and produced one litter of pups. The pack has now been named the “Rogue Pack” as

CO34-39

CO34 Continued, page 26 of 138

CO34-38 There is no requirement under NEPA that a BA must be completed prior to issuing a DEIS. The BA was issued in February 2015 and it is available on FERC's eLibrary.

CO34-39 The detailed analysis for effects to listed species is provided in the FERC BA which is available on the FERC project site. The ESA section 4.7 in the EIS provides the conclusions of this BA analysis. The Biological Opinion by the FWS and NOAA is not produced until several months after the FEIS. In the meantime, our estimates are based on our analysis.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 27 of 138

it occupies areas of the Rogue River-Siskiyou National Forest in Douglas and Klamath counties. The DEIS acknowledges that the pipeline route would cross the area where OR-7 has become established. The DEIS also acknowledges that the territory size of a wolf pack can range up to 1,500 square miles and that individual wolves are known to disperse from packs sometimes more than 600 miles from a home range. DEIS at 4-629. The DEIS states that the pipeline would be located six miles from the OR-7 den location, but nevertheless concludes that its construction, clearcutting, and permanent right of way will not adversely affect the species. This analysis fails to acknowledge the impact of road development and clearing on grey wolf habitat suitability, the increase in accessibility that the pipeline route and maintenance roads could have, increasing possible human-caused mortality or harassment of wolves. Human activity tends to create an avoidance response, which can interfere with necessary activities such as hunting and breeding. In addition, increased human presence also increases the risk of exposure to new diseases and parasites to wolf populations, such as heartworm, Parvo, and Lyme disease. The DEIS does not address these risks, but formal consultation with USFWS may reveal more specific impacts resulting in a "Likely to Adversely Affect" determination.

The lack of consultation for the project is also problematic because key mitigation measures for ESA-listed species have not been determined or vetted by key agencies, such as the NMFS. Information included in the DEIS fails to provide an adequate assessment of how impacts of the project to key listed species will be avoided or minimized. For example, Coho salmon are ESA listed as a federally threatened species and face potential impacts from the LNG terminal and its tankers. The DEIS includes incomplete and inadequate information regarding the discharge of cooling water for LNG tankers.

CO34-40

State agencies including the Department of Fish and Wildlife (ODFW), Department of Geology and Mineral Industries (DOGAMI), Department of Land Conservation and Development (DLCD), Department of State Lands (DSL), and the Water Resources Department (OWRD), have all weighed in voicing serious and myriad concerns about the considerable adverse effects of this project on the state's water, species, habitat, and forest resources, as well as emergency response resources. See State of Oregon FEIS comments, May 29, 2009, attached.

1. Permanent Loss of High-Quality Benthic Communities

The DEIS notes that submerged aquatic vegetation (including eelgrass, macrophytic algae) as well as other food web components such as phytoplankton, zooplankton, detritus, and epiphyton, are all important in supplying habitat and food base for EFH species within Coos Bay.

For example, submerged grasses or SAV are important habitat for small prey species of adult lingcod (in Appendix B-2 of PFMC 2008). Forage items that are habitat components for the managed species do depend to some extent on estuarine systems. Many species of groundfish and salmonids occupy inshore areas of the lower bay during juvenile stages (e.g., Chinook salmon, Coho salmon, English sole) where they feed on estuarine-dependent prey, including shrimp, small fishes, and crabs. As they mature and move offshore, their diets in

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 28 of 138

many cases change to include fish, although estuarine-dependent species (e.g. shrimp, crabs) can still constitute an important dietary component.

DEIS at 4-562.

A large and diverse invertebrate population exists in Coos Bay. The creation of the access channel and marine slip would modify approximately 28 acres of present-day subtidal and intertidal habitat to deep water habitat within Coos Bay. DEIS at 4-567.

The dredging operation to create the access channel would change physical conditions of the bay bottom in this area, locally altering the bathymetry and potentially altering the morphology and water currents. About 15 acres of intertidal to shallow subtidal habitat, including approximately 3 acres of SAV eelgrass habitat and less than 1 acre of salt marsh, would be modified to primarily deep subtidal habitat during the dredging process of the deepened channel. *Increasing depth and removal of vegetation would reduce the quality of habitat for juvenile salmonids and other juvenile marine species.*

DEIS at 4-567 (emphasis added).

The DEIS further acknowledges direct impacts to benthic organisms from dredging activities:

Jordan Cove's dredging would also directly remove benthic organisms (e.g., worms, clams, starfish, and vegetation) from the bay bottom within the access channel. Mobile organisms such as crabs, many shrimp, and fish could move away from the region during the process, although some could be entrained during dredging so that direct mortality or injury could occur. Based on 1978 maps of shellfish (Gaumer et al. 1978), shrimp, soft shell clams, bentnose clams, and cockles are located within the intertidal areas near the slop and within dredge areas (west of the Roseburg Forest Products Company site). ODFW captured Dungeness crab and red rock crab in this area during 2005 seining efforts. *These species could be injured or killed during dredging operations.*

It is reported that benthic communities on mud substrate in Coos Bay, when disturbed by dredging, recovered to pre-dredging conditions in 4 weeks (Newell et al. 1998). Because of the large quantity being dredged, it may take a longer period relative to typical dredging and thus the benthic communities in the areas to be dredged may take a more varied length of time to recover. In addition, because the shallow area would be converted to deeper water habitat than what is currently there, some long-term reduction in benthic production would occur. Some of this loss would be offset by added annual benthic production from the newly formed 37-acre slip habitat, even though it would likely be of poor quality. We would also expect increased organic matter production to the Coos Bay system (at 3:1 habitat replacement) from Jordan Cove's proposed eelgrass and wetland mitigation sites.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

DEIS at 4-569 to 4-570.

Dredging the bay will degrade the habitat of the native mud shrimp. The DEIS failed to address this species. The shrimp are especially sensitive to the kind of disturbance caused by installing the pipeline through the bay. Mud shrimps are also dealing with the cumulative impacts of an introduced parasite infestation, a parasitic isopod called *Orthonoe griffenis*.⁶ If the dredging and the pipeline installation in the bay cause the shrimp to decline even further, it can trigger lower water quality in the bay since the shrimp are filter feeders. Scientists have determined that "In Oregon estuaries, mud shrimp filter as much as 80 percent of the bay water per day."⁷ They are also an important food source for birds, fish, and other animals. The DEIS failed to consider the impacts to the bay ecosystems if the Jordan Cove Project reduces Mud Shrimp populations even further. The invasive parasite arrived in the ballast water, probably on container ships sailing from Japan.⁸

CO34-41

The permanent loss of several acres of highly productive intertidal habitat that would be converted to low productive deep-water habitat is, within the meaning of OAR 340-048-007(11), a condition deleterious to fish or other aquatic life that may not be allowed.

CO34-42

2. Entrainment of Fish by LNG Vessels

The LNG vessels that would dock in the new marine slip under the proposed action would take in large amounts of bay water from the slip to cool vessel engines. The DEIS acknowledges this problem, but fails to take the required hard look at the effects this impact will have on endangered, threatened, and sensitive species.

CO34-43

The measures that Jordan Cove has proposed to deal with these problems are unproven and inadequate, as NMFS itself has noted in its comments for the prior DEIS and FEIS. NMFS used strong language to describe the inadequacies of the 2009 FEIS: "in reviewing the FEIS, NMFS has found that many of the December 1, 2008, DEIS comments have not been addressed." Many of the criticisms NMFS previously levied against the project apply to the current proposal as well. For example, NMFS specifically noted problems with the lack of fish screens to prevent entrainment of threatened and endangered species:

CO34-44

Jordan Cove no longer proposes to include fish exclusion screens with a fixed water delivery system to the hulls of the ships. NMFS maintains that screening ballast and engine cooling water is the most effective method to minimize adverse effects to the aquatic resources. While the U.S. Coast Guard has identified some

⁶ Jolene Guzman, *Invader kills off mud shrimp* (February, 2009), available at http://theworldlink.com/news/local/invader-kills-off-mud-shrimp/article_fa08c2d9-47e9-5cb6-83d3-6bad07ec3dd1.html. (Guzman, 2009)

⁷ Eric Wagner, *Mud Shrimp Meets Invasive Parasite, High Drama for Northwest Estuaries* (2006), available at http://depts.washington.edu/mwst/issues/index.php?issueID=winter_2006&storyID=782. (Wagner, 2006)

⁸ *Id.*

CO34 Continued, page 29 of 138

- CO34-41 The bay has been dredged for decades. See the analysis in section 4.4.2.1 and in 4.6.2.3 for an assessment of the effects.
- CO34-42 The State will determine if the project meets State laws as part of its permitting process.
- CO34-43 In addition to the FERC analysis, the regulatory agencies will assess what is needed to protect listed species in their Biological Opinions.
- CO34-44 Comment noted. The Coast Guard is responsible for determining ballast water treatment, not FERC or NMFS. The Coast Guard follows federal law and is also bound by international treaties. Screening current used for LNG tankers is discussed in section 4.6.2.2.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

regulatory difficulties with the original screening design proposed in the DEIS, those difficulties do not preclude its implementation.

NMFS FEIS Comments at 2 (June 8, 2009). The DEIS for the current export project indicates that this problem has not been remedied: the DEIS notes that the current proposal is to use ship-mounted screens that do meet NMFS criteria. DEIS 4-572 to 4-573. The DEIS acknowledges that a high portion of juvenile larval stages of fish and invertebrates entrained or impinged would suffer mortality. DEIS at 4-573. Nevertheless, the DEIS concludes that entrainment impacts are minimal because "natural mortality of these early life stages is extremely high." *Id.* In other words, because many juvenile and larval aquatic organisms die, the additional mortality caused by entrainment is not significant. This logic flies in the face of standards for protection of water quality set forth in OAR 340-048-007(11). Simply because juvenile fish already suffer high mortality, that is not sufficient to discount the additional mortality caused by entrainment in LNG vessels via cooling water uptake. Furthermore, the DEIS fails to explain how the data regarding overall juvenile fish mortality is relevant to the specific conditions of Coos Bay and its ESA and EFH species and benthic communities. In addition, the DEIS states that the overall abundance of organisms in the slip will be relatively low compared to the main channel. NMFS previously rejected this assumption:

The NMFS knows of no literature to support this assumption. In fact, it is more likely that the abundance of organisms, including OC Coho salmon juveniles and southern DPS green sturgeon, especially smaller life stages, may be greater in the slip area as they use it for refuge from the higher velocities of the main channel. Secondly, the FERC analysis minimizes the potential for effects to resources based on the percentage of Coos Bay water that will be taken aboard ships. The analysis incorrectly assumes that resources are evenly distributed throughout the bay. Provide an effects analysis that incorporates the likely heterogeneity of resources in the estuarine environment.

NMFS 2008 DEIS comments at 2.

The FERC cannot ignore the serious concerns of NMFS, an expert federal agency. In addition, the unnecessarily high levels entrainment of fish and other aquatic life in engine cooling water for LNG vessels is, within the meaning of OAR 340-048-007(11), a condition deleterious to fish or other aquatic life that may not be allowed. Additional analysis is necessary to provide the agency and the public with adequate information about the fish exclusion technology to be used, complete with an analysis of the effectiveness of the plan, and the stormwater testing to be employed. Without addressing these issues, and without the many other missing studies, plans, and analyses pointed out by federal and state agencies, the Coalition, and other individuals and organizations in DEIS and FEIS comments, the DEIS is wholly inadequate and legally insufficient. The FERC cannot approve the application without consulting with NMFS.

3. Temperature Impacts from Discharge of Cooling Water

The DEIS states that water will be discharged from engine cooling at 3 degrees C (5.4 degrees F) above ambient water temperatures. DEIS 4-576. Modeling of mixing zones and dissipation of

CO34-44
continued

CO34-45

CO34-46

CO34 Continued, page 30 of 138

CO34-45 See the remainder of the paragraph. The DEIS estimates that a high proportion of the entrained individuals would be killed; however the number of entrained individuals would be small, less than 1 percent. It also states that 20 to 30 percent of individuals in this life stage die each day.

CO34-46 The estimate is based on data supplied by the applicant in their 2011 report (Volume 2 - Jordan cove Energy Project and Pacific Connector Pipin Coastal Engineering Modeling and Analysis). The estimated heating water discharge flow is about 62 cfs (see page 32 of this report) with a 3 degrees C (5.4 degrees F) increase over ambient at the point of discharge. The large volume of water used is likely the reason increase in temperature is not as high as other estimates noted. Temperature increase would be reduce to 10 percent initial discharge temperature within 50 feet or less of the discharge port, resulting in a very small area of slightly elevated temperature having minimal affects, which was discussed in the DEIS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

water temperature increases were likewise based on this assumed 3 degrees increase. However, Jordan Cove did not provide any information regarding the source of this assumed temperature of cooling water. Nothing in the DEIS or FERC filings appears to support the assertion that engine cooling water will be only 3 degrees C higher than the average ambient Coos Bay water temperatures of 50 degrees F. On the other hand, FERC's FEIS for the Bradwood LNG Project states that "cooling water discharged from a 150,000 m³ steam powered LNG carrier could initially be 19.4 °F higher than ambient water temperatures" as compared to seasonally ranging ambient temperatures in the Columbia River of 42 to 68 °F. Bradwood LNG Project FEIS at 4-85 (2008). Oregon LNG, also proposed for the Columbia River, estimates that "according to industry sources, the water taken for cooling the vessel's machinery is warmed by 6 to 9 degrees Celsius at the point of discharge" and that the average for diesel-powered LNG vessels would be 8.9 °C above ambient water temperatures. Oregon LNG, CH2MHill Technical Memorandum, Appendix F Cooling Water Discharge Analysis, at 2 (Sept. 10, 2008). And according to EPA, cooling water can reach high temperatures with the "thermal difference between seawater intake and discharge typically ranging from 5 °C to 25 °C, with maximum temperatures reaching 140 °C." EPA, *Final 2013 Vessel General Permit Fact Sheet* at 133.

These discharges could be as much as 19 degrees F higher than ambient temperatures, presenting a significant temperature stress risk to salmonids. The DEIS appears to state that the temperature increase will be dispersed—apparently discussing a 5.4° F increase 50 feet from the discharge point and the average increase in the slip area as a whole—but the DEIS does not specifically discuss potential impacts from higher temperatures prior to dispersion closer to the discharge point. DEIS 4-576. Thus, the DEIS does not offer an adequate analysis of impacts to ESA-listed species. Consultation for the project is clearly warranted, and until official consultation is initiated, it is impossible for the public to know what mitigation measures will be proposed and whether they will be effective.

4. Strikes and Strandings by LNG Vessels

At least 90 LNG tankers are proposed to dock at Jordan Cove each year. Movement of these massive vessels will injure fish and aquatic life by ship-animal collisions (vessel strikes) and beaching (stranding) of animals in the vessels' wakes.

There are up to seven species of federally listed whales off the coast of Oregon. (DEIS 4-631). The DEIS claims that 180 more vessel trips per year are "not likely to increase the number of ship strikes to whales over known frequencies of incidents". The DEIS offered no references for this assumption. Indeed, adding 180 more trips will definitely increase ship strikes.

Even the Jordan Cove Application for Incidental Harassment says:

If all project-related LNG traffic transits the California EEZ stratum during the life of the project, one or more blue whale, fin whale, humpback whale, and sperm whale are expected to be injured or killed by a project-related LNG tanker.

For ships that stay within the Oregon-Washington EEZ, at least one sperm whale is expected to be injured or killed by a project-related LNG tanker. This information conflicts with the DEIS that no increase in ship strikes will occur. The Application also says that "Project-related ship-

CO34-46
continued

CO34-47

CO34

Continued, page 31 of 138

CO34-47

Although there is some potential for effects to federally listed whale species as a result of the 90 LNG vessels, these were determined to be so unlikely to occur as to be discountable given the density of listed whales and rate of collision within the EEZ, combined with Project minimization measures. Details and support for this conclusion are provided in FERC's BA, available on the FERC website, and cited in the DEIS. The FEIS has been updated to reflect that Project vessel traffic is expected to cause an immeasurable increase in ship strikes to listed whales. Potential for stranding of fish from vessel wakes was addressed in section 4.6.2.1 of the DEIS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

strikes to gray whales are most likely as tankers cross perpendicular to gray whale northbound and southbound coastal migrations.”

NOAA says: “The west coast of the United States has some of the heaviest ship traffic associated with some of the largest ports in the country.... Of all the large whale species that inhabit our coastline, Blue, Fin, Humpback, and Gray whales are the most vulnerable to ship strikes because they migrate along the coast and many utilize areas along the coast for feeding.”

The most common whale along the Oregon coast is the Gray whale, which migrates twice a year past Coos Bay. The DEIS states that the LNG project could cause a 1.6 percent increase in shipping, which would increase impacts to whales. However, the DEIS refers to the “BA (FERC 2014)” for the discussion. The public was not able to review that document during the public commenting time. When it is released, FERC should re-open the public comment opportunity.

CO34-48

The DEIS claims Gray whales have been struck by ships (DEIS 4-668), about 1.2 whales annually, but the increase in shipping (180 more trips in and out of Coos Bay) will not further harm the gray whale. The DEIS provided no basis for this claim. Blue whales are also hit by ships, and ship strikes are insignificant.

Marine mammals being hit by ships is a larger, more significant danger than the DEIS considered. The DEIS repeatedly says: “ship strikes on whales within the EEZ analysis area are infrequent” (4-631). Why stop at the Oregon EEZ zone when some ships could be traveling in the California EEZ. And “infrequent” is not defined. For an endangered species, it could be frequent. The DEIS should also have considered impacts to marine mammals from increased ship traffic for the entire trip to Asia as a cumulative, connected action. Scientists even speculated that some vessels are so big, they may not even know that they hit a whale. LNG vessels will be the largest of these vessels.

CO34-49

The DEIS should also have considered the cumulative impacts of this project and the Principal Power Proposed Off-shore Wind Project (DEIS 3-17). The wind turbines will add to the noise impacts, and maintaining the wind turbines will add to ship traffic.

CO34-50

The LNG terminal and the tankers will harm marine mammals due to habitat destruction and vessel strikes. In addition, multiple ESA-listed mammals and turtles are also present, including the green turtle, leatherback, olive ridley, and loggerhead. In 2012, NMFS designated critical habitat for the leatherback, which includes nearshore areas around Coos Bay and areas part of the LNG tanker routes. 77 Fed Reg 4170 (Jan. 2012). All of these ESA-listed species, as well as the non-ESA-listed species, will be adversely affected by the proposed project.

CO34-51

The large increase in deep draft vessels due to the LNG terminal will increase the risk of vessel strikes of marine mammals and turtles. The NMFS’ unpublished compiled data indicates nine whale vessel strikes of were either reported in the region or detected during necropsy by the NW Marine Mammal Stranding Network between January 2002 and January 2007. Fin whales (6) were encountered most frequently, with individual strikes reported for blue, sei and humpback whales. Seven of the strikes were reported from Washington and two from Oregon, during the four year period (start of 2002 through start of 2007). The closest strikes to the proposed action

CO34 Continued, page 32 of 138

CO34-48 The BA was released in February 2015.

CO34-49 The DEIS considered potential impacts in the Oregon and Washington EEZ because the Project is in Oregon and LNG vessels are expected to travel the 'great circle' route. The comment that infrequent could be frequent is noted. FERC does not regulate shipping across the Pacific. FERC does regulate LNG terminals; therefore, the analysis focuses on the terminal. See section 4.14 for an explanation of the analysis areas considered for cumulative effects.

CO34-50 The Principle Power project is considered, see table 4.14.2.3-1.

CO34-51 Sea turtles and marine mammals are addressed in section 4.6.2.1 and ESA listed mammals and turtles are addressed in sections 4.7.1.1 and 4.7.1.4. The NMFS will determine the impacts and mitigation for listed marine species in their BO, which would be released after the FERC FEIS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

area involved a fin whale that came into the Port of Portland on the bow of a vessel in September 2002, and a blue whale that was reported struck and killed off Tillamook, Oregon, in January 2007. Far more actual strikes occur than are reported. The FERC must assess the impact of these strikes to individuals and populations. The FERC must fully understand the tanker route to Jordan Cove and the tanker routes in the Exclusive Economic Zone.

Separate from vessel strikes, vessel traffic will cause wake stranding of juvenile salmon and other fish. Wake stranding will increase greatly due to the additional deep draft ships. Further, turning of the LNG tankers with high thrust tugs will increase wake stranding and disorientation of salmon.

The killing and injuring of whales, leatherback sea turtles, harbor seals and fish caused by strikes with vessels or wake stranding, is, within the meaning of OAR 340-048-007(11), a condition deleterious to fish or other aquatic life that may not be allowed.

5. Injury Caused by Noise from LNG Vessels and Marine Slip Construction

Increased noise from LNG ship traffic creates conditions that are deleterious to fish or other aquatic life. The noise emitted from LNG ships is above the NMFS's noise threshold for physical harm to fish. LNG ships are considered cargo vessels and cargo vessels are known to emit high levels of low frequency sound (6.8 to 7.7 hertz (Hz) at 181 to 190 dB, re: 1 µPa) capable of traveling long distances (Richardson et al., 1995). See Bradwood Landing LNG Terminal DEIS at 4-224. The NMFS' current noise thresholds for fish are a peak pressure of 180 dB re: 1 µPa for physical harm and an impulse pressure, or root mean square (rms), of 150 dBrms re: 1 µPa for behavioral disruption. Noise from LNG vessels can adversely affect whale behavior.

CO34-52

In addition, noise from construction of the marine slip (including pile driving) may adversely impact pinnipeds. Jordan Cove would install 112 steel piles for the LNG vessel berth on the east side of the marine slip. This pile driving could exceed NMFS noise criteria and cause adverse impacts to pinnipeds. Marine mammals, especially pinnipeds, are sensitive to noise disturbances. According to the applicant's modeling, sound levels greater than 65 dB will extend less than 0.25 mile from pile driving operations. Jordan Cove has not yet developed a plan to protect pinnipeds from noise impacts associated with the construction of the marine slip and berth. The FERC should consider whether these potential impacts can be adequately addressed.

6. Permanent Loss of Coastal Riparian Vegetation

Removal of vegetation near the shorelines will adversely affect aquatic species by removing a source of food. Numerous studies have established that riparian vegetation provides a valuable food source for fish, especially juveniles. Wipfli, 1997. The food is the result of invertebrates in the detritus, understory, and canopy of riparian vegetation. Many of these invertebrates find their way into the water and are subsequently eaten by fish.

CO34-53

Clearing vegetation along the edge of Henderson Marsh and Coos Bay will destroy this habitat for invertebrates, thus destroying a valuable food source for fish along the stretches of these waterbodies. The analysis of food source impacts due to removal of vegetation conducted in the

CO34 Continued, page 33 of 138

CO34-52 Operational acoustic effects are discussed in section 4.6.2.1. Underwater noise from construction and operation of the LNG terminal is provided in Section 4.12.2. Relative to existing ship traffic noise levels the increases associated with the terminal are predicted to be insignificant.

CO34-53 A small portion of the total vegetation bordering the bay would be removed to develop the marine slip. This may result in a minor effect on invertebrate species. We are not aware of any evidence that this minor loss of vegetation would have a significant effect on food sources in the bay.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

DEIS is limited to possible increases in food in the form of microorganisms and aquatic invertebrates in the water due to increased temperatures. Any increases in food by increased production of microorganisms and aquatic invertebrates will further be offset by losses of invertebrates along the shoreline due to the removal of vegetation. The impacts to fish and other aquatic organisms resulting from the removal of a valuable food source, in the form of invertebrates, through the destruction of terrestrial vegetation along the shores of Coos Bay and Henderson Marsh, would be detrimental to resident biological communities.

CO34-53
continued

The DEIS fails to address salinity changes and resulting impacts to fish resources in Coos Bay. The DEIS likewise does not address the impacts of fertilization in riparian areas and nutrient loading impacts on water quality.

CO34-54

Jordan Cove will introduce or allow the proliferation of invasive species to Coos Bay, the terminal site, and along the pipeline route. First, ships from foreign ports will transport exotic species on multiple surfaces and in water releases from ballast or engine cooling water. These species may harm the aquatic ecosystem. Second, the removal of vegetation, and long-term disturbances at the site will allow the introduction and proliferation of exotic species, which will harm native ecosystems and may require herbicides and pesticides to manage.

7. Individual Species

a. Coho Salmon – Southern Oregon/Northern California Coast ESU

The project area includes two major river systems known to support SONCC Coho: the Rogue River and the Klamath River. The DEIS acknowledges that the project is likely to adversely affect SONCC Coho due to numerous impacts to feeding, juvenile exposure to elevated turbidity levels, potential swim bladder rupture due to blasting activities, injury and mortality during fish salvage, and long term habitat deterioration due to reductions in large woody debris. Stream crossing construction and removal of riparian vegetation are the two primary contributors to these impacts.

In addition, the DEIS admits that the project is likely to adversely impact critical habitat for SONCC Coho. The acknowledged impacts include loss of hatching and rearing habitat from substrate removal and turbidity at stream crossings, degraded water quality as a result of turbidity caused by stream crossing construction, reduction in food sources, barriers to migration during stream crossing construction, and long term loss of native riparian vegetation.

The pipeline construction will disrupt fish passage by damming the streams during the trenching and pipeline placement. It is unclear how long fish passage would be interrupted. The mitigation of capturing and removing fish behind the dams is historically ineffective, and will result in the take of threatened salmonids. This is particularly troubling and unacceptable for large crossings proposed on the Coquille, Umpqua, and potential crossings of the Rogue and Coos if proposed HDDs fail. See discussion of HDD failure, *supra*. The DEIS fails to acknowledge the potentially

CO34-55

CO34 Continued, page 34 of 138

CO34-54 See section 4.6.2 for a discussion of runoff from upland areas entering the bay, as well as for ballast and cooling water effects. Salinity is discussed in section 4.4.2.1. There are regulations that must be followed with ballast water discharge designed to make the chance of invasive species entering the bay unsubstantial. The use of herbicides and their potential impacts are addressed in section 4.5.

CO34-55 While the applicant's proposed crossing methods may temporarily block passage, State law does not permit fish passage to be blocked. The Project would be required to obtain a permit from the State for in-water work in fish streams.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

severe impacts to SONCC Coho and its designated critical habitat as a result of HDD failure, and the FERC should not rely on this faulty analysis.

CO34-55
continued

b. Coho Salmon – Oregon Coast ESU

The project area includes designated critical habitat for the Federally Threatened Oregon Coast Coho: the South Umpqua Subbasin, Coquille Subbasin, and the Coos Subbasin (which includes the Coos Bay estuary). The DEIS acknowledges that the project is likely to adversely affect Oregon Coast Coho and its critical habitat. DEIS at 4-644, 4-645.

Activities related to the marine terminal and north spit facilities, including discharge of maintenance dredging spoils causing turbidity plumes, LNG vessel wake strandings, engine cooling water intake entrainment, dredging of the access channel and construction of the pipeline across Hayes Inlet could all jeopardize the survival of this species. Moreover, cooling water intake is likely to entrain and impinge many food sources for Coho, such as juvenile stages of crab and shrimp, other zooplankton and eggs and larvae fish. Pipeline-related activities including stream crossing construction or failures of those operations, blasting, mortality during fish salvage operations, and loss of large woody debris for habitat also have the potential to cause jeopardy to the Oregon Coast Coho and adversely affect its designated critical habitat. DEIS at 4-645.

The DEIS does not address direct mortality impacts to listed fish from dredging in Coos Bay. As discussed *supra*, the proposed hydraulic cutterhead dredge method will entrain juvenile fish, including threatened salmonids, as well as benthic organisms critical to salmon diets. Mechanical dredging would not have the same fish entrainment impacts, but is not seriously considered as an alternative dredge method.

CO34-56

The FERC must analyze the impacts of fish entrainment due to dredging. The FERC must also consider the fact that the fish killed will include salmonids listed as threatened under the federal ESA and the Oregon ESA. The FERC must also look to the effect cooling water entrainment would have on food sources for the threatened Coho salmon. The FERC must consider cumulative impacts on aquatic life, including the impacts from dredging, terminal construction and operation, pipeline construction and operation, as well as the impact of the channel deepening dredging and maintenance dredging.

The proposed dredging is the antithesis of salmon recovery and restoring estuarine habitats, as described in every local, state, and federal management plan. Quite simply, we cannot recover threatened salmon while simultaneously permitting this huge dredging project. Jordan Cove is a prime example of an unacceptable project due to its size, scope, and location in critical salmon habitat.

c. North American Green Sturgeon – Southern Distinct Population Segment

Both Northern and Southern population segments of the North American Green Sturgeon are known to occur within Coos Bay for feeding, growth, and thermal refuge. The DEIS admits that the project is likely to adversely affect Green Sturgeon as a result of bottom disturbance and

CO34-57

CO34 Continued, page 35 of 138

CO34-56 Direct mortality of listed fish from dredging entrainment was addressed in the BA. The analysis concluded, based on dredging studies in other areas, that direct mortality of listed salmon is unlikely to occur (see response to CO34-39). While the slip dredging volume is large, more than half of the area removal would be in the dry and removal is a one-time event in confined area over a short period. Also, dredging is an ongoing activity in the bay which has occurred for decades so changes from current channel maintenance dredging actions would be small, with project maintenance dredging a fraction of what currently occurs in Coos bay. Entrainment loss from cooling water intake was noted to be very small for all organisms and would therefore not have substantial effects on Coos Bay resources. The direct and indirect effects of these actions are addressed in the Section 4.6 of this EIS, the cumulative effects 4.14 address the effects of this and other foreseeable project.

CO34-57 Comment noted. See the response to the previous comment.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

reduction of benthic food supply from construction and maintenance dredging as well as dredged spoils disposal, and the potential for dredged spoils disposal to bury subadult Green Sturgeon. DEIS at 4-647. Likewise, the project is likely to adversely affect critical habitat for the species. The FERC must look at the effect dredging and dredged spoils disposal would have on food sources for the threatened green sturgeon.

CO34-57
continued

d. Pacific Eulachon – Southern Distinct Population Segment

Pacific Eulachon (also known as candlefish) utilize Coos Bay for habitat, and may be present in the estuary during construction and operation of the project. Eulachon typically spend three to five years in saltwater before returning to freshwater to spawn in late winter through mid-spring. Eulachon are a small fish rich in calories and important to marine and freshwater food webs, as well as commercial and recreational fisheries and indigenous people from Northern California to Alaska. The DEIS does not adequately assess potential impacts to this species as a result of the dredge and fill operations proposed in ocean waters, Coos Bay, and coastal tributaries.

CO34-58

e. Lost River Sucker

The Lost River Sucker is a federally listed endangered species that spawns in freshwater streams. The Pacific Connector Pipeline will cross the Lost River upstream of known spawning areas. The pipeline will also cross the Klamath River, another basin where Lost River suckers occur. The DEIS acknowledges that the project is likely to adversely affect Lost River sucker and its designated critical habitat due to injury or death during fish salvage or release of drilling muds from frac-out during HDD of the Klamath River. DEIS at 4-650.

f. Shortnose Sucker

The Shortnose sucker is another endangered fish species whose populations have been severely impacted by dam construction, water diversions, overfishing, water quality problems, loss of riparian vegetation, and agricultural practices. Shortnose sucker critical habitat includes the Klamath River within the project area. The DEIS states that the project is likely to adversely affect shortnose suckers for the same reasons that the Lost River sucker is likely to be adversely affected. DEIS at 4-652.

g. Snowy Plover.

The north spit “supports the most productive snowy plover population segment on the Oregon coast”. (DEIS 4-633). The DEIS failed to consider all threats to the threatened western snowy plover from this project. For instance, dredging soils will attract snowy plovers to nest in inappropriate areas. Plovers often return to the same breeding sites year after year, while the dredged sand will be moved for various purposes.

CO34-59

The closest snowy plover nest is only 1.1 miles from the terminal site, in critical habitat, and in the best Snowy Plover nesting habitat in Oregon, at the tip of the north spit.

CO34 Continued, page 36 of 138

- CO34-58 This is an ESA listed species (see section 4.7.1) and is addressed in the BA (See response to CO34-39).
- CO34-59 As the comment states, mitigation and protection measures for this species are being developed.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Additional impacts the DEIS failed to consider would be increased predation to plover nests because increased development brings increased corvids, a predator of plover nests. LNG ships could negatively impact the snowy plover at sea. Skunks and coyote's could be attracted to the dredged material or human presence, increasing the predation threat in plovers. Increased human activity also means more dogs disturbing their nests. The DEIS says that Jordan Cove would "minimize" impacts by humans and pets, but has no specific information on how that would be done.

These impacts to the Snowy Plover should have made the Plover a Likely to Adversely Affect endangered species. The mitigation offered in the DEIS is inadequate, simply a few thousand dollars.

Western snowy plover active nest sites are located within two miles of the proposed LNG terminal site, with critical habitat located approximately 2.6 miles from the site. Snowy plovers are heavily impacted in this area due to human disturbance and scavenger and predator effects. Jordan Cove proposes to implement BMPs to protect plovers from construction and operation impacts, however, those measures have not been clearly articulated or demonstrated that they will offset the potential impacts from increased human activities in the area where plover are known to nest and occupy critical habitat.

h. Native Oysters.

DEIS 4-547: "Coos Bay contains one of only three known native Oregon coastal populations of the Olympia oyster. Within its native range, this species is significantly diminished from historical levels...". Up to 1,000 Olympia Oysters could be within the pipeline right-of-way (4-584). Oysters will be affected by turbidity and sedimentation caused by the installation of the pipeline in the bay, using an open cut method in Haynes Inlet.

The DEIS refers us to the Olympia Oyster mitigation plan. That plan claims that "dispersal of fine sediments and elevated turbidity will be confined to a very small area and are thus unlikely to negatively impact Olympia oysters outside the pipeline right of way. Thus the only negative effects to Olympia oysters would be direct disturbance."

The PCGP failed to consider that fine sediments and turbidity spread downstream with the flow of water, or upstream if the tide is coming in. The PCGP has no basis to conclude the dispersal of fine sediments will not travel.

Dredging the bay, which would not occur as much without this project, will harm more oysters. These oysters, including at the mouth of Coos Bay, should have been considered in the DEIS.

PCGP proposes to relocate the oysters within the right-of-way to an area northwest of the right-of-way, where there are already Olympia oysters. However, the DEIS failed to consider how many oysters can occupy that site, and if it is currently at capacity.

F. Compliance with the Coastal Zone Management Act.

37

CO34 Continued, page 37 of 138

CO34-60 We have addressed the distribution of turbidity (suspended sediment) that would result from Haynes inlet crossing and dredging including the likely extent of these plumes, including affects to local oysters. Turbidity plume distributions considered tidal effects (see applicant supplied report by Moffatt and Nichol entitled Report on Turbidity Due to Dredging, and Coast and Harbors Engineering - Coastal Engineering Modeling and Analysis Vol 2). As noted suspended sediment during the winter period can be substantial in the bay so some levels of higher turbidity are a normal condition. Effects to local oyster beds within about 0.3 miles of the route from turbidity was noted, but oysters along the route would be moved to avoid trenching impacts including turbidity. Suspended sediment effects would not extend substantially outside of those areas discussed and not to a level affecting oysters outside of the local vicinity of the pipeline route. These impacts are addressed.

CO34-59
continued

CO34-80

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Pursuant to section 307(c) of the CZMA, the applicants must provide a consistency certification that the project is consistent with the Oregon Coastal Management Program. 16 U.S.C. § 1456(c)(3). The Oregon Department of Land Conservation and Development is responsible for ensuring, pursuant to the federal Coastal Zone Management Act (CZMA) of 1972, that the proposed project is consistent with the state's coastal management program. 15 C.F.R. Part 930, Subpart D, contains the applicable regulations for the federal consistency determination. Specifically, 15 C.F.R. § 930.11(h) defines "enforceable policy," stating,

The term 'enforceable policy' means State policies which are legally binding through constitutional provisions, laws, regulations, land use plans, ordinances, or judicial or administrative decision, by which a State exerts control over private and public land and water uses in the ['coastal zone,' 16 USC 1453(6a), and which are incorporated in a management program as approved by OCRM either as part of a program approval or as a program change under 15 CFR part 923, subpart H.

Oregon's coastal management program includes: 1) the statewide land use planning goals; 2) the applicable acknowledged city or county comprehensive plan and land use regulations; and 3) state statutes and regulations governing removal-fill, water quality, and fish & wildlife protections.

The DEIS does not demonstrate compliance with the Coastal Zone Management Act ("CZMA"). The application is both incomplete and inadequate. The application is premature, lacking complete applications to other key agencies and adequate analyses of impacts to sensitive resources. Additionally, the project has failed to obtain local approvals for the terminal and pipeline necessary for the project to demonstrate compliance with the CZMA.

CO34-61

1. Inadequate Information to Support Certification.

As described above, the application to the Corps, DEQ, and DLCD lacks key information. The lack of adequate information for all of these agencies, including DEQ, renders the CZMA application incomplete because the CZMA requires key state authorizations be received as part of the application. For all the reasons detailed above demonstrating incompleteness of the section 401 application to DEQ, the application to DLCD is also incomplete under the CZMA.

The application is also incomplete because it does not show that the project complies with local land use regulations, despite assertions to the contrary in the DEIS. Although some portions of the project have been reviewed and approved by Coos County, key elements of the project, including the South Dunes Power Plant and Utility Corridor, have not yet been subject to review for consistency with Statewide Planning Goals and/or local comprehensive plan and land use ordinance provisions. There are currently no pending applications before Coos County for these determinations. Instead, these components are being reviewed as part of the Oregon Department of Energy (Energy Facility Siting Council) certification process. The DEIS is therefore inaccurate and the public notice is misleading and premature.

CO34-62

CO34 Continued, page 38 of 138

- CO34-61 It is up to the State to determine whether the project receives a coastal zone permit.
- CO34-62 FERC does not enforce state and county regulations, the local governments do. Any FERC certificate would be conditioned on the applicant meeting all legal requirements.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 39 of 138

The applicants have failed to provide adequate information related to Statewide Planning Goals and local land use requirements:

- Information demonstrating compliance with Statewide Planning Goals 16, 17, and 18 for impacts to coastal shorelands, estuaries, and dunes.
- Information demonstrating compliance with Statewide Planning Goal 7 related to natural hazards.
- Information demonstrating compliance with Statewide Planning Goals 5 and 6 for natural resources and air and water.
- Information demonstrating compliance with CBEMP Policies #17 and #18. The location of project components within the Coos County Shorelands Values Inventory Map has not been provided and/or explained with sufficient detail to allow a determination of compliance with those policies.

The applicants have failed to provide adequate information related to state removal-fill laws:

- Information regarding impacts to waters of the state including wetlands at the South Dunes site. The information provided as to impacts to Wetland M is inconsistent. In addition, the applicants have not provided any information explaining the nature of fill material to be deposited in the waters of the state.
- Descriptions of the nature and duration of each activity associated with the construction of the barge berth, including dredging, filling or pile driving, and impacts due to sedimentation and noise.

The applicants have failed to provide adequate information related to state water quality laws:

- Information related to wastewater discharge from the South Dunes site.
- Information related to the source of water for the South Dunes facility, maximum water use, and annual average and worst-case conditions for water loss.
- Information explaining measures to be included in the NPDES permit for stormwater discharges that will minimize impacts of erosion and sedimentation on surface water.

The applicants have failed to provide adequate information related to state wildlife protection laws:

- Information related to sensitive species on ODFW Wildlife Division Sensitive Species List.
- Information related to the nature, extent and duration of impacts on the habitat that could result from construction, operation and retirement of the South Dunes facility.
- Information related to the potential for indirect impacts on eelgrass habitat from sedimentation and the quantity of habitat that could be impacted.
- Information sufficient to demonstrate how the Upland Erosion Control, Revegetation, and Maintenance Plan will offset fragmentation impacts to wetlands and estuarine habitat for the South Dunes site.
- Information related to mitigation of indirect impacts to amphibians at the South Dunes site.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 40 of 138

- Information related to impacts to raptors, other birds, and nesting habitat at the South Dunes site.
- Information to substantiate claims of no direct impact to stellar sea lions from the South Dunes project component.
- Information related to mitigation measures for wildlife habitat disturbed as a result of activities related to the South Dunes site.
- Information related to impacts to marine mammals and birds resulting from the South Dunes project component.
- Inconsistent information related to impacts to green sturgeon.

This lack of information puts DLCD in the impossible position of reviewing a consistency certification without fundamental information about how the project would impact the coastal zone. Without this information, DLCD and the public are crippled in their ability to comment on the project's consistency with the enforceable policies of the OCMP. At a minimum, the Coalition requests that DLCD object to the Applicants' CZMA certification on the basis that they have failed to submit adequate information demonstrating that the project complies with the enforceable policies of the Oregon Coastal Management Program.

2. The Project is Inconsistent with Statewide Planning Goals.

DLCD should object to the CZMA certification because the project is inconsistent with several of Oregon's Statewide Planning Goals. The Statewide Planning Goals are implemented through local comprehensive plans. For this project, Coos County and Douglas County, as well as the City of Coos Bay are the local governments with regulatory authority for land use approval of the project. However, as discussed above, many components of the project have not been reviewed or approved for local land use approvals. DLCD must independently consider whether the project will comply with the Statewide Planning Goals applicable to this project within the Coastal Zone.

a. Goal 6: Air, Water, and Land Resource Quality

For the reasons stated in these comments, Jordan Cove LNG fails to demonstrate its project is consistent with Statewide Planning Goal 6, "[t]o maintain and improve the quality of the air, water and land resources of the state." The Coalition's scoping comments to FERC, as well as prior comments from the State of Oregon, National Marine Fisheries Service, and others, describe a multitude of environmental impacts from Jordan Cove LNG's terminal. DLCD should object to the CZMA certification because the project is not consistent with Statewide Planning Goal 6.

b. Goal 7: Natural Hazards

Statewide Planning Goal 7 requires land use planning to reduce risk to people and property from natural hazards. Regulated natural hazards include floods, landslides, earthquakes and related hazards, tsunamis, coastal erosion and wildfire. The proposed LNG terminal would be located in an area subject to extreme risk from earthquake and tsunami inundation. In addition, the pipeline

20150213-5259 PERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 41 of 138

would cross several areas of steep terrain and heavily forested areas within the Coastal Zone, subject to landslide and wildfire risk.

Scientists predict that there is a 40 percent chance of a major earthquake (magnitude 8.7 to 9.2) and tsunami on the Cascadia Subduction Zone off Coos Bay in the next 50 years. The severity of the earthquake would be similar to that experienced in Japan in March of 2011. If by 2060 there has not yet been a major earthquake, 85 percent of known intervals of earthquake recurrence in 10,000 years will have been exceeded. This type of event would cause violent ground motion, soil liquefaction, lateral spreading and subsidence. In turn, these land changes could cause pipe breaks and damage the LNG storage tanks proposed for the facility. In order to protect the site from tsunami inundation, Jordan Cove proposes to use sand to fill and elevate the property site above the projected inundation level, 40 feet or more about current land elevations.

The project site on the North Spit is located at a bend in Coos Bay, where tidal energy is deflected. The elevation of the land at this location could significantly alter the direction and velocity of an incoming tsunami. For example, instead of running up onto the North Spit and inundating the land there, the proposed sand wall, if it survives the liquefaction and lateral spreading effect of the earthquake, would deflect and re-direct the force of a tsunami. DOGAMI has prepared inundation zone maps to help the communities of Coos Bay and North Bend prepare for evacuation and planning in case of tsunami. The proposed significant alteration of the shoreline at this location could have important effects on the inundation of other areas within the Bay Area communities. In other words, the risks of these types of hazards extend beyond just the inundation, liquefaction, and ground shaking at the project site. The project's proposed alterations of the shoreline at the project location could have significant impacts to the communities of the Coos Bay area. These types of risks to people and property must be accounted for in order to comply with Goal 7.

c. Goal 9: Economic Development

Statewide Planning Goal 9, OAR 660-015-0000(9) provides for "adequate opportunities throughout the state for a variety of economic activities vital to the healthy welfare, and prosperity of Oregon's citizens." Jordan Cove LNG's proposed terminal and its adverse effects on shipping, fishing, and tourism would undermine the fundamental mandate of Goal 9. The Jordan Cove LNG site falls along the necessary ingress and egress of practically any vessel bound for or leaving from Coos Bay. These unavoidable interferences with these industries indicate the failure of Jordan Cove LNG's proposal to comply with Goal 9's intent for Comprehensive Plans to account for the economies of all regions of the state.

Additionally, construction of the terminal would disregard at least two Planning Guidelines enumerated in Goal 9. Planning Guideline 2 of Goal 9 offers among the most relevant considerations to the proposals at issue when it states in part that "[t]he [comprehensive] plan should also take into account the social, environmental, energy, and economic impacts upon the resident population." While guidelines are "suggested approaches . . . designed to aid . . . in compliance with goals," ORS § 197.015, the failure to follow guidelines suggests the potential for noncompliance with goals. Here, the Applicants' proposals would negatively impact each of the considerations enumerated in the portion of Planning Guideline 2 stated above.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 42 of 138

Social: Construction of the Jordan Cove LNG terminal would diminish recreational and commercial fishing due to both the fishing vessels' compliance with the mandatory safety zone accompanying every LNG carrier en route to Jordan Cove LNG as well as the decreased salmon spawning habitat as a result of the vast amount of proposed dredging and filling of critical salmon habitat. Additionally, the danger of an LNG breach will surely instill a degree of apprehension among a number of those within an LNG carrier's mobile blast zone and, in some cases, fear. Particularly given the modern potential for terrorist activity, both apprehension and fear would have a reasonable basis in reality.

Environmental: The proposed terminal site is home diverse flora and fauna, both marine and land, including salmon rearing habitat. In supplanting this ecosystem with industry, Jordan Cove LNG will harm these and other environmental treasures. As discussed throughout these comments, the environmental effects of the proposed project are significant and far-reaching.

Economic: The terminal and accompanying carriers will cause economic harm inhibiting the flow of boat traffic, diminishing the tourism appeal of the area, and negatively impacting the housing market. Coos County is home to many commercial and recreational fishermen. The LNG-related delays caused to commercial fishing vessels would thus be felt heavily in Coos County. Delayed shipping and tourist vessels bound for Coos County would experience similar costly delays. In addition to these delays faced by tourist vessels, LNG would diminish tourism in the area in general. Additionally, property values of areas near Jordan Cove or anywhere along the LNG tanker pathway would experience a considerable decrease, due to factors such as the diminished aesthetic appeal of the area as well as the ongoing subjection to the blast zone of the LNG carriers. Also associated with the risks inherent in LNG are increased insurance costs. Id.

Energy: The costs of LNG export likewise will harm the community. LNG export activities, rather than providing public benefits, will significantly increase gas costs to U.S. consumers and businesses as they are forced to compete with high-priced overseas markets. These impacts are discussed in detail in Section 1.1 of these comments, *infra*.

Jordan Cove LNG's project also disregards Goal 9's Planning Guideline 4, which states "[p]lans should strongly emphasize the expansion of increased productivity from existing industries and firms as a means to strengthen local and regional economic development." This guideline indicates the Goal 9's preference toward improvements or modifications of existing entities, with an emphasis on "local and regional economic development."

d. Goal 11: Public Facilities and Services

Statewide Planning Goal 11 is to "plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development." OAR 660-015-0000(11). The project, with its influx of 2,100 workers (at peak), is likely to place stress on existing public services including police and fire protection, as well as water and sewer treatment providers. Several components of the project, including the addition of the Southwest Oregon Regional Safety Center and the North Bend worker's camp, threaten to violate the policies of Goal 11. For example, the Applicants have not demonstrated that the proposed North

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 43 of 138

Bend workers' camp can be adequately served by existing water and sewer systems. If existing water and/or wastewater treatment facilities are not adequate to serve the additional 2,000 users at the workers' camp, the expansion of these public services must comply with Goal 11 policies.

DLCD has an independent obligation under the CZMA to review Douglas and Coos County's actions related to land use approvals for the project and ensure that the counties' actions comply with the Statewide Planning Goals. In addition, several components of the project have not yet been reviewed for land use compliance. DLCD must ensure that all aspects of the project comply with the Statewide Planning Goals as part of the enforceable policies of the Coastal Management Program. The Coalition urges DLCD to protect Oregon's interests by objecting to the Applicants' consistency determination on the basis that the project is inconsistent with the Statewide Planning Goals.

3. The Project's Proposed Water Use is Inconsistent with Coastal Management Plan Policies.

The Applicants will be required to seek approval for water rights to construct and operate the LNG terminal and pipeline. The Oregon Water Resources Department's (OWRD) mission is to "restore and protect streamflows and watersheds in order to ensure the long-term sustainability of Oregon's ecosystems, economy, and quality of life."⁹ Further, water resources are held by the state in trust for its citizens. "The state, as trustee for the people, bears the responsibility of preserving and protecting the right of the public to the use of the waters [for navigation, fishing and recreation]."¹⁰ *Oregon Shores Conservation Coalition v. Oregon Fish and Wildlife Comm'n*, 62 Or App 481, 493, 662 P2d 356 (1983).

As part of its mission and public trust duty, OWRD must act to protect water resources for future generations of Oregonians. In light of the threats to water resources posed by population growth, increased usage and demand, upstream pollution, urbanization, drought and climate effects, and over-utilization of groundwater and surface waters, OWRD should be vigilant in acting to protect continued access to potable water. OWRD has acknowledged that management of water resources in Oregon is facing a number of significant challenges. See WRD, *Integrated Water Resources Strategy Discussion Draft* 8 (Dec 2011). Surface water is nearly fully allocated during summer months and groundwater is showing decline in many areas. *Id.* at 19. Almost 15,000 stream miles in Oregon do not meet the state's water quality standards for one or more pollutants. *Id.* at 22. These include several streams and waterways that will be impacted by the project, including Coos Bay and the Coos River.

Using Oregon's public water resources to construct and operate LNG export facilities is not in the best interest of the public of this state. The proposed LNG terminal and pipeline would consume millions of gallons of water each year, cause water pollution, and harm Oregon's recovering salmon runs. Pipeline construction would damage forestlands and watersheds, and disrupt property rights. Forcing Oregonians to live and work near massive LNG export facilities will subject citizens to unacceptable and unnecessary risks. Because using Oregon's water for

⁹ Oregon Water Resources Department, *About Us*, http://www.oregon.gov/OWRD/about_us.shtml (May, 2007) (last visited Jan. 11, 2015).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

LNG export would be detrimental to Oregon's interests, OWRD has the authority, and the obligation, to deny applications for water rights for this project.

G. Compliance with Port Ordinance 129.

Port Ordinance 129 states that "unless approved by vote of the people at a general or special election, the Port shall not hereafter lease, sell or transfer any of its property for a proposed industrial use which would be... 1) a single point source discharger of waste water... in excess of 2 million gallons per day... or which would use or divert in excess of 2 million gallons of fresh water per day... 2) an air pollution source... which discharges or releases into the air one ton of total reduced sulfides per year... 3) an air pollution source which releases into the air toxic chemicals in excess of state or federal standards..." See, Port of Coos Bay, *Total Reduced Sulfides*, <http://portofcoosbay.com/ord129.pdf> (accessed Feb. 11, 2015) ("Ordinance 129"). Additionally, the Board of Commissioners established "a citizens committee to advise the Port on actions which the Port should take for breach of provisions in leases, deeds or transfer agreements relating to compliance with federal, state or local environmental laws and regulations."

While it appears that the Port of Coos Bay believes that the project meets the Ordinance provided that Jordan Cove is in compliance with federal and state air quality standards, in fact the project will likely violate the second and third provision of the Ordinance. The emissions during operation of the project from the LNG terminal and South Dunes Power Plant, LNG vessels, and transport of dredged materials to the open sea disposal site add up to be very substantial, 73.36 tons per year of sulfur dioxide during operation. DEIS, 4-884. These emissions violate the one ton of total reduced sulfides per year criteria in Port Ordinance 129.

To minimize pollution, the project plans to first scavenge the sulfur, that is removed from the natural gas for the liquidation process, (to a condensed phase), using the Ultrafab Sweet 100 Process (and subsequently disposed of off-site), and then any remaining sulfur not captured by that process will be oxidized to SO₂ using the thermal oxidizers. No detectable emissions of H₂S or other reduced sulfur compounds are expected to be produced during construction or operation of the facilities yet they report substantial figures of sulfur dioxide. The DEIS notes that hydrogen sulfide would also be present in the air emissions during operation of the facility. This compound is present in the pipeline coming into the terminal and would be at concentrations of 0.0003 pounds of sulfur per thousand standard cubic feet of pipeline. DEIS, Appendix D. Consequently, the Pacific Connector pipeline also violates the one ton rule. DEIS, 4-889 – 4-890.

For hazardous air pollutants, the DEIS simply states that the requirements stayed within federal regulation and compliance are satisfied. DEIS, 4-879 – 4-888. The DEIS states "the project's PSD permit application demonstrates that the applicable requirements of these regulations are met." DEIS, 4-882. The DEIS should not rely on a permit application for many reasons. First, the EPA and ODEQ may reduce the amount emissions discharge proposed in the permit application. Second, EPA and ODEQ may not accept the permit application. In both situations, the current proposed emissions will violate both federal and state air quality standards. Since the DEIS simply references to the PSD permit application, the DEIS does not report any data of the hazardous air pollutants emissions. This data is missing from the DEIS and must be reported in

CO34-63

CO34 Continued, page 44 of 138

CO34-63 FERC does not set standards for air pollution, it evaluates whether an applicant's proposal would comply with existing standards. If EPA or the State require emission reductions, this would not change the DEIS's conclusion that the applicant's proposed action would meet current federal standards.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

order to make sure that the Jordan Cove project is in compliance with the third criteria of Port Ordinance 129.

CO34-63
continued

III. PACIFIC CONNECTOR NATURAL GAS PIPELINE.

The applicants also propose to construct a 232-mile, 36-inch high-pressured gas pipeline, which will be placed through Coos Bay and cross and permanently impair streams, wetlands, and sloughs, along with causing associated deleterious impacts to upland habitat, forest, farm, recreational, and residential uses. The pipeline would cross 400 waterbodies (RR2 at 6), require clear cutting of 1,013¹⁰ acres of the remaining old growth forests in Oregon, cross steep and remote terrain prone to landslides where emergency response is limited to local volunteers, and impact and permanently impair approximately 5,938 acres of state, federal and privately owned lands. DEIS at 4-448. The DEIS states that the Pacific Connector Gas Pipeline (PCGP) would cross approximately 11.6 miles of wetlands. DEIS at 4-412. The Joint Permit Application ("JPA") associated with Clean Water Act compliance for this project states that the PCGP would cross approximately 11.64 miles of wetlands, impacting approximately 239 acres of wetlands. Resource Report 2 at 70. The JPA also states that 87,454.19 cubic yards of material will be excavated from wetlands, and 39,117.61 cubic yards of material from waters, for a total of 126,571.80 cubic yards to be excavated along the pipeline route. According to the JPA, 660 features of potentially jurisdictional wetlands and other waters were identified within the project corridor. Resource Report 2 (Table 2A-3 of Appendix 2). The DEIS states that approximately 239 acres of wetlands will be disturbed during construction of the project. DEIS Appendix N, Table N-1b at N-67.

As a largely undeveloped upstream region, the portion of the Project area sited for the proposed upstream pipeline and related infrastructure will be dramatically affected. The Pacific Connector pipeline would traverse approximately 40 miles of BLM lands and 31 miles of NFS lands on its 232-mile route from Malin to Coos Bay, Oregon. The pipeline project would cross portions of 19 fifth-field watersheds, 16 of which include BLM or NFS lands where the ACS applies. In 12 of the 16 watersheds traversed by the pipeline on federal lands, the pipeline project would cross perennial or intermittent streams or riparian areas designated as Riparian Reserves; in 4 of the watersheds crossed, the pipeline project would not intersect with Riparian Reserves or stream crossings.

CO34-64

A. Pipeline and the Pipeline Right-of-Way

Construction of the pipeline, including clearing the pipeline right of way, will have tremendous impacts. In this section, we discuss the impacts related to terrestrial pipeline activities. Impacts related to pipeline stream crossings are discussed in the following subsection.

1. Sediment Impacts from Corridor Clearing and Construction

¹⁰ This includes 858 acres of construction-related clearing and 155 acres of operation-related clearing. DEIS at 4-456.

CO34 Continued, page 45 of 138

CO34-64 Comment noted. The impacts of the proposed pipeline as it relates to the ACS is discussed in section 4.1.3.5 and Appendix J of the DEIS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS 4-73 falsely asserts that “as a result of application of the measures in the ECRP, soil erosion and sediment transport during corridor clearing and construction is expected to be minor and within the range of natural variability of the watersheds where the action occurs”. First, the use of qualitative and subjective descriptors (e.g. “minor”) is not adequate technical analysis for a project of this size and variability. Corridor clearing on steep erosive slopes is certain to generate more sediment than the same action on stable flat ground. The DEIS is defective because it fails to estimate the amounts of sediment generated from clearing and construction. Sediment generated from forest clearing (i.e. logging) on steep topography is well documented even with the measures identified (DEIS 4-73). For example, the DEIS 4-73 cites Robichaud et al. (2000) to assert that silt fences are 90-95 percent efficient in trapping sediment. Even if this trapping efficiency is true for Corridor Clearing and Construction, this means that up to 10% of the sediment generated by the project will reach streams. Ten percent delivery of sediment from a large disturbance area is likely to be significant for spawning coho salmon in very small streams.

Methods and models are available for estimating volumes (i.e. cubic yards) of sediment generated from clearing (aka logging), road building, road use with heavy equipment, and large scale excavations. Quantitative analysis commensurate with the scale of disturbance (xxx acres of initial deforestation, xx miles of temp. road, millions of cubic yards excavated) would reveal a range of sediment amounts generated for each pipeline segment based on site characteristics. Some pipeline segments, but certainly not all, may warrant a “minor” descriptor

The DEIS does not address scientific controversy and uncertainty about the effectiveness of erosion control measures. In particular, the DEIS fails to acknowledge severe sedimentation of streams caused by the construction of a much smaller gas pipeline from Roseburg to Coos Bay. (See Register Guard Article dated 7/25/2004 “Enterprise goes Sour”). The DEIS fails to discuss scientific uncertainty and scientific controversy regarding the effectiveness of sediment control measures identified in the DEIS. Since sediment control measures failed catastrophically during the construction of a previous gas pipeline, similar sediment discharges would be expected for this gas pipeline because this pipeline traverses the same unstable steep terrain, this pipe is much larger, and the area of deforestation is much larger. The DEIS fails to address the credibility issue surrounding gas pipeline construction in southwest Oregon and associated severe sediment impacts to many miles of coho salmon streams. Assertions of “minor” sediment impacts for this pipeline are not scientifically or empirically substantiated.

Assertions of compliance with laws and regulations do not constitute a science-based disclosure of sediment impacts. The DEIS 4-73 falsely states “As a result of application of the measures in the ECRP, soil erosion and sediment transport during corridor clearing and construction is expected to be minor and *within the range of natural variability of the watersheds where the action occurs*” (emphasis added).

The reference to “the range of natural variability” is in the context of compliance with the NFS/BLM ACS. Assertions of compliance with the ACS does not exempt the DEIS from disclosing in plain English what the sediment impacts to miles of stream actually are. Furthermore, the best available science strongly suggests that the watersheds and stream channels traversed by the pipeline west of the Cascades are already degraded to a condition

CO34-65

CO34-66

CO34-67

CO34 Continued, page 46 of 138

CO34-65 Multiple levels of BMPs will be used besides silt fences to control run off sediment (see ESCP), in order to minimize erosion regardless of quantity. EIs will regulate construction and post construction actions and procedure suitable for the conditions encountered to comply with state/federal permits. With many procedures in place to control sediment runoff, the goal is to minimize effects so that they are minor or construction is halted until effects are reduced back to minor.

CO34-66 Multiple levels of BMPs will be used to control run off sediment (see ESCP) in order to minimize erosion regardless of quantity. EIs will regulate construction and post construction actions and procedure suitable for the conditions encountered to comply with state/federal permits. With many procedures in place to control sediment runoff, the goal is to minimize effects so that they are minor or construction is halted until effects are reduced back to minor.

CO34-67 See response to CO34-65. Also please note that the 400 stream crossings where sediment would be most likely to enter are spread over 19 fifth-field watersheds covering over 2 million acres. Additionally, the total clearing related to pipeline construction would be equal to or less than 0.1 % of each watershed area in most of the 19 fifth field watershed, with some up to about 1 percent (See Table 4.14.3-1). Considering these factors, the statement made is reasonable.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

outside the “the range of natural variability” due to previous and ongoing logging and road building (see Columbaroli and Gavin 2010, attached). Since the 1950s sedimentation of streams has increased 5 fold due to logging and road building which is far greater than any sediment episode in the past 2,000 years. This means that any further human related deposition of sediment (i.e. pipeline construction) will cause an undisclosed number stream miles to be further outside the “the range of natural variability.” The watersheds and critical coho salmon habitat impacted by the pipeline have no buffering capacity for additional sediment from pipeline construction due to historic and ongoing logging.

CO34-67
continued

The DEIS fails to disclose the estimated amount of sediment discharged into streams from blasting and associated turbidity and suspended sediment. See DEIS 4.2.2.5 Blasting During Trench Excavation. This entire section is written from the perspective of impacts to human uses and structures and totally ignores the impact of blasting to increased sediment in streams.

CO34-68

The DEIS: 4-617 and 4-644 indicate that blasting could injure or kill fish, including coho salmon. The DEIS is not based on the best available science because it did not survey stream crossings or other areas where blasting could directly affect fish to determine the species present and densities of fish species that could be affected. ODFW has standard protocols for establishing juvenile densities in small streams but the DEIS failed to use them. The DEIS is defective because it did not estimate the numbers of fish that could be affected at the 30 sites identified (DEIS 4-644).

CO34-69

The DEIS is not based on the best available science because it has not established pre-project quantitative baseline upland erosion rates, baseline stream sedimentation rates and baseline data for other aquatic parameters for the stream miles that could be impacted.

CO34-70

The DEIS has not surveyed stream channels at stream crossings for physical and biological parameters. Baseline data for fishes and fish habitat appears limited to “proposed” pre-construction surveys at stream crossings (DEIS 4-608). While we agree these surveys are needed prior to construction, these surveys are inadequate to establish baseline (pre-construction) stream conditions above and below stream crossings. Spawning sites below stream crossings would be subjected to elevated sedimentation (DEIS 4-645). Survey techniques are available from ODFW, EPA, and USFS to document habitat conditions for stream miles that could be affected from cumulative sediment effects during the life of the project. In the absence of baseline stream inventories, monitoring of sediment would be limited to anecdotal observations of EI’s and not be based on the best available science. We further assert that all stream miles within 6th or 7th field watersheds that will have pipeline construction be stream surveyed with an emphasis on fine sediment deposition, pebble counts and quality/quantity of spawning/rearing habitat (see Anlauf et al 2011, Firman et al. 2011). The East Fork Cow Creek is a good example of a smaller stream needing its own watershed analysis due to multiple pipeline crossings. Anecdotal observations of EI’s about erosion and turbidity, while necessary, are not sufficient with respect to “best available science.” Protocols for establishing baseline conditions for streams are available for NEPA purposes from ODFW, USFS, and EPA. The DEIS fails to disclose expected increases of erosion/sedimentation because it has not established baseline conditions for streams and stream reaches at pipeline crossings. The DEIS fails to report the

CO34-71

CO34-72

CO34 Continued, page 47 of 138

CO34-68 Section 4.6.2 discusses potential blasting effects to fish if blasting occurs near streams. Sedimentation due to blasting would likely be a very minor component of any turbidity resulting from stream crossings. See the response below.

CO34-69 Blasting effects are discussed in section 4.6.2.3. As discussed in section 1.5.1, all permits must be obtained prior to construction. The permit requirements will designate actions to be implemented to reduce or eliminate adverse effects to fish. Procedures that would be used include isolation and removal of fish from blasting areas, so the only fish possibly affected would be from the salvage operation and any fish not successfully removed from the area prior to blasting. Any standard fish density estimates would be meaningless and not site specific.

CO34-70 Multiple levels of BMPs will be used to control run off sediment (see ESCP) in order to minimize erosion regardless of quantity. EIs will regulate construction and post construction actions and procedure suitable for the conditions encountered to comply with state/federal permits. With many procedures in place to control sediment runoff, the goal is to minimize effects so that they are minor or construction is halted until effects are reduced back to minor.

CO34-71 See response to CO2-5 and CO2-6.

CO34-72 The comment is correct, the DEIS does not specifically list the erosion rates for streams that would not be affected by the Project if No Action is implemented. There is no need for this since there would be no project-related effects. Alternative routes are analyzed using available information in Chapter 3. See the discussion in the introduction on how FERC considers alternatives.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

erosion rates/sedimentation rates for occupied stream miles for “no action” and various alternatives or proposed actions.

CO34-72
continued

Scientific monitoring during the life of the project cannot document adverse impacts if baseline conditions are not established prior to disturbance. The DEIS fails to disclose its non-scientific strategy of “no data” to mean “no sediment problem.” At a minimum, habitat conditions for critical coho salmon habitat must be surveyed prior to construction to agency protocol standards that would allow for future scientific monitoring.

The DEIS is not based on the best available science because its sediment analysis appears to be limited to 5th field watersheds. This scale of analysis is not appropriate for a linear project that would adversely affect coho salmon and other fishes that spawn in 6th and 7th field watersheds. The science issue is that pipeline construction across, upstream, or upslope of spawning and rearing fish (e.g. coho salmon) will be impacted due to large scale disturbance on steep slopes that will deliver sediment to stream channels located below them. Currently, there is ongoing erosion and sedimentation from the forested areas associated with fish bearing streams. Deforestation and pipeline construction is certain to increase erosion rates and increase sedimentation. The question is how much and where? Repeated sediment denial in the DEIS with reference to “minor” impacts and repeated statements about reliance on anecdotal observations of EI’s are not “best available science” when establishing ongoing and post-project sediment impacts to streams occupied by fish, especially the federally listed coho salmon. Pre- and post- stream surveys are a science based approach to monitor sediment impacts and the effectiveness of a suite of mitigations for this large project but none seem to have been identified in the DEIS.

CO34-73

In addition to longer-term impacts, there are likely to be particularly severe impacts in the first year of construction. Pacific Connector proposes to clear timber from along the pipeline route in fall 2015, with mainline construction to begin in 2016. The DEIS does not provide an analysis of how cleared areas are to be managed during the winter of 2015-2016 in order to prevent significant erosion and sedimentation events during that time. Without site-specific analysis relevant to this construction period, the FERC, DEQ, other state and federal agencies, and the public cannot meaningfully evaluate the effectiveness of measures to control erosion and sedimentation of waterways during this period.

CO34-74

2. Temperature Impacts of Vegetation Clearing Along The Right-of-Way

The proposed action would cause stream temperature increases by removing riparian vegetation across a wide construction easement. The project would remove riparian vegetation in the right-of-way for all pipeline crossings. The DEIS states, “removal of vegetation that once shaded the stream may cause local and temporary (daily) increases in temperature during the hot summer months. This may or may not exceed the TMDL on temperature-impaired streams...” DEIS at 4-372. The proposed action would result in ‘obvious stream heating.’ The temperature increases the proposed action would cause could not be authorized under OAR 340-041-0028(11) or (12). Therefore, the temperature increases associated with the proposed project would constitute degradation that violates Oregon’s antidegradation policy.

CO34-75

CO34 Continued, page 48 of 138

- CO34-73 The DEIS is a science-based document that summarizes years of studies and considers the extensive research on fish, riparian habitat, streams and water quality. The fifth-field watershed is commonly used in the Pacific Northwest for analyzing project effects. Watershed analyses for fifth-field watersheds completed by federal agencies are a key component of managing federal lands under the Northwest Forest Plan and provide a good basis for an analysis of effects.
- CO34-74 The Erosion Control and Restoration Plan (ECRP) included as Appendix I in the POD discusses the winterization plan in Attachment E for sites where construction disturbance requires restoration the following spring.
- CO34-75 Stream water exposure to the lack of shade at pipeline crossings would be temporary and limited. Modeling results indicate that within a short distance downstream from all crossings, instream water temperatures would return to ambient conditions.

20150213-5259 PERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Removing riparian vegetation will increase water temperature by decreasing shade in numerous streams identified as having salmon and steelhead spawning use, having core cold water habitat use, having salmon and trout rearing and migration use, or having migration corridor use. In numerous instances, the proposed action would cause temperature increases that violate the standards contained in OAR 340-041-0028(4)(a)-(d).

CO34-76

The proposed action would impact: 1) Streams identified as having salmon and steelhead spawning use in the Rogue Basin and South Coast Basin¹¹; 2) Streams identified as having core cold water habitat use¹²; 3) Streams identified as having salmon and trout rearing and migration use¹³; and 4) Streams identified as having migration corridor use.¹⁴

Numerous stream segments that would be impacted by the proposed action already suffer high temperatures that violate State water quality standards. Many of these streams are on the State's list of water quality limited waters under Section 303(d) of the Clean Water Act. See DEIS Table 4.4.2.2-3 (ODEQ Water Quality Limited Streams Crossed by the Pacific Connector Pipeline). Therefore, any temperature increases in these streams attributable to the proposed action would result in exacerbations of existing violations of state water quality standards. The Ninth Circuit Court of Appeals recently made clear that new dischargers may not add a pollutant into a water body that is water quality limited. See *Friends of Pinto Creek v. United States Environmental Protection Agency*, No. 05-70785 (9th Cir. Oct. 4, 2007).

CO34-77

Under OAR 340-048-0042(5):

Upon completion of the department's evaluation, including consideration of public comment and, if applicable, coordination through a HART in accordance with OAR 340-048-0037, the Director must issue a decision approving or denying certification for the activity, containing:

(g) If certification is approved, conditions the Director determines are necessary to assure compliance with applicable standards and requirements set forth in sections (2) through (4) of this rule for the duration of the federal license or permit.

However, there is no realistically achievable set of conditions that the Oregon DEQ could impose on the applicants to assure that the proposed action would be in compliance with numerical temperature limits specified in OAR 340-041-0028(4). Stream temperature increases cause *acute* stress that has an immediate impact on salmon and other temperature-dependent fish. The DEIS only discuss what the applicants might be able to do to reduce the extent of stream

¹¹ Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 271B (Rogue Basin) and Figure 300B (South Coast Basin).

¹² Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 300A (South Coast Basin).

¹³ Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 271B (Rogue Basin) and Figure 300B (South Coast Basin).

¹⁴ Subbasin maps and tables set out in OAR 340-041-0101 to 340-041-0340: Figure 300A (South Coast Basin).

CO34 Continued, page 49 of 138

CO34-76 The applicant has indicated they will do additional riparian plantings in the ratio of 1:1 for construction phase affects and 2:1 for permanent impacts to mitigate for any potential temperature increases as outlined in the DEQ letter of September 12, 2011 (see PCGP 2013 Thermal impact Assessment). These actions will aid in reducing potential impacts to stream temperatures. Also the applicant will be required to obtain all permits including those dealing with state water quality where any deviations of standards will be addressed.

CO34-77 Stream water exposure to the lack of shade at pipeline crossings would be temporary and limited. Modeling results indicate that within a short distance downstream from all crossings, instream water temperatures would return to ambient conditions.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

heating *several years* after temperature increases have occurred - well after the damage caused by stream temperature increases has occurred. At that point, the damage will be irreparable.

While the DEIS admits high water temperatures represent a limiting factor for salmonid viability, it fails to assess the significance that further degradation of already impaired waterways creates in terms of reducing salmonid survival, production, and abundance.

3. Northwest Forest Plan, Late-Successional Reserves, and Mitigation.

The Northwest Forest Plan (NWFP) Late Successional Reserve (LSR) standards and guidelines state (C-17) that pipelines should be planned to have the least possible adverse impacts on LSRs. "New access proposals may require mitigation measures to reduce adverse effects on Late-Successional Reserves. In these cases, alternate routes that avoid late-successional habitat should be considered." The DEIS failed to document that alternate routes around all LSRs were considered, such as the unmapped LSR at MP 86 that has an obvious way to go around it. The NWFP also states (C-17) that these types of proposals will be reviewed on a case-by-case basis and may only be approved when adverse effects can be minimized and mitigated. The DEIS fails to minimize the impacts, and fails to properly mitigate the impacts, as documented in these comments. Thus, the project violates the Northwest Forest Plan and its Standards and Guidelines.

The NWFP only allows new developments like this in LSRs when the developments "address public needs or provide significant public benefits" (C-17). The NWFP gives examples, and exporting domestic fossil fuels to Asia was not included as having a significant public benefit or public need. Therefore, the pipeline is not allowed in the LSRs described by the Northwest Forest Plan.

The NWFP does not allow some of the mitigation offered for clearcutting endangered species habitat. For instance, concerning the mitigation of placing wood in streams, the NWFP says (B-32): "In-stream structures should only be used in the short term and not as a mitigation for poor land management practices." FERC has not demonstrated that its mitigation will be effective or is even permitted under the NWFP.

The DEIS failed to compensate for the increased Equivalent Clearcut Area (ECA) within each watershed. If the watershed has too many clearcuts, the additional ECA caused by the pipeline could cause peak flow increases, not allowed by the Aquatic Conservation Strategy of the Northwest Forest Plan.

Other ACS objectives are not being met. For instance, some mitigation proposed to meet ACS objectives repairs damage caused by the pipeline, but does not restore habitat above that. This is the case with the 6.4 miles of fencing proposed on the Winema NF to keep cattle out of pipeline right-of-way. This should not be counted as mitigation. It is simply the cost to build the pipeline.

Plants and wildlife on the Survey and Manage list of the Northwest Forest Plan have inadequate protections. Moving the pipeline around them, instead of the weak mitigations offered for destroying them, could have protected many of these areas.

50

CO34 Continued, page 50 of 138

CO34-78 The effects of water temperature changes to aquatic resources is addressed in section 4.6.2.3. Potential temperature changes considering all factors (size of clearing, modeled and literature results estimates of change, and proposed mitigations) were considered to be unsubstantial to aquatic resources.

CO34-79 The efforts to avoid and minimize adverse impacts to LSRs is discussed in the DEIS in section 3.4.3.2, 3.4.3.3, 4.1.3.6 and Appendix K of the DEIS. Due to the density of the LSR network in SW Oregon avoiding all LSRs would require locating the route entirely on private land or on Highways. Consideration of these routes is also discussed in the DEIS in section 3.4.1 and in Resource Report 10 attached to PCGP application to FERC. Only a small portion (less than 2 acres) of the southern edge of KOAC P2294 (MP 86) would be cleared for the PCGP project (see Figure 4.1-20 of the DEIS). The compensatory mitigation plans developed by the BLM and Forest Service for LSR have been designed so that overall the new development would be neutral or beneficial to the creation and maintenance of late successional habitat in LSR. "Pipelines" were specifically mentioned as one of the types of projects that address public needs or provide significant benefits at C-17 in the NWFP (see DEIS pages 4-162 to 163).

CO34-80 Page B-32 of the NWFP does not preclude placing wood in streams as a mitigation action. The placing of wood in streams by the BLM and Forest Service is not being proposed as mitigation for poor land management practices, it is being proposed as compensatory mitigation for unavoidable adverse impacts of the proposed project. Consistency with the ACS is addressed in section 4.1.3.5 and Appendix J of the DEIS. Appendix J includes a discussion of 5th field watersheds that may be impacted, including a specific discussion of key ecological processes that could be affected (e.g., peak flows, sediment regime, aquatic connectivity). The 6.4 miles of fencing on the Winema NF has not been proposed to keep cattle out of the pipeline right of way. This fencing project has been proposed by the Winema NF to keep cattle out of riparian areas which is consistent with ACS objectives. Moving the pipeline to avoid all survey and manage species is not feasible. Based on existing data and data collected for the proposed project, it is expected that additional sites of survey and manage species occur outside the surveyed corridor (see e.g. pages 4-687 to 4-689 of the DEIS). However, for the species where few sites are known to exist and species persistence would not be reasonably assured, minor route adjustments have been proposed (see sections 3.4.4, 3.4.4.1, 4.7.7 and Appendix K of the DEIS).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

4. Forest Fire Threats

Forest fires will occur in these fire-adapted forests, no matter how wide a fuel break is. The DEIS states (4-991) "In the event a fire was to occur on the surface in the vicinity of the pipeline, the presence of the pipeline would not increase fire hazards." This analysis is incomplete. It's not the presence of the pipeline that would increase fire hazards. Rather, it is the presence of the early-seral habitat in the right-of-way that increases fire hazards. Because these areas are sunnier and dryer, they are more fire-prone. Native and introduced brushes in the right-of-way instead of trees are also more volatile and burn hotter than in a mature forest. And because the right-of-way is linear, it has the ability to spread a hotter fire faster over the landscape.

Similarly, if there is a rupture in the pipeline, truly catastrophic fire will result. The location of the pipeline is a very rural, very rugged area without prompt access to any kind of first responders, much less fully equipped crews to suppress a gas-fueled fire. As history indicates, professional fire crews from the State of Oregon, Forest Service, Bureau of Land Management, and other federal and state agencies rarely are able to suppress wildfires in this country, much less a fire fueled by natural gas. The DEIS does not analyze the likelihood that such a fire could occur, or what the environmental consequences would be. The lack of analysis is arbitrary, capricious, and not in accordance with law. 5 U.S.C. § 706(2)(A).

The DEIS only analyzed the risk of the pipeline to fire behavior when instead the DEIS should have analyzed the risk of the right-of-way to fire behavior. Because the right-of-way will cause the fire to spread along the right-of-way, the damage to the forests, wildlife, and homes will increase near the right-of-way.

The DEIS claims (4-991) that the pipeline itself will not be impacted by a forest fire "because of the insulating effects of soil cover over the pipeline. Soil is a poor conductor of heat..." However, the pipeline will only be buried 24" in many places, especially rocky areas. The FERC should present some scientific evidence that a heat cannot penetrate 24" in rocky soils.

Another problem with the right-of-way and fire is the right-of-way will cause more fire suppression. It is environmentally advantageous and economical to treat many wildland fires as a controlled burn, and not suppress them in the backcountry when it doesn't threaten homes or other infrastructures. However, the presence of a pipeline in the back-country will mean that more wildland fires will have to be suppressed, fires that otherwise would have been treated as natural, beneficial fires. The DEIS failed to consider this problem.

B. Stream Crossings

1. The DEIS Does Not Clearly Identify All Affected Waterbodies.

The application materials do not consistently specify the number of waterbodies that would be crossed. As noted by DEQ, the pipeline will necessitate direct impacts to waters at 510 locations, including 218 to 383 water body crossings. According to Resource Report 2, the pipeline would cross 400 waterbodies (RR2 at 6). The DEIS states that the pipeline would cross or affect 274 waterbodies. DEIS 4-582.

51

CO34 Continued, page 51 of 138

CO34-81

The potential for the Pacific Connector pipeline to contribute to wildfire risk is discussed in section 4.5.1.2 of the EIS. To reduce potential impacts related to possibility of wildfire, Pacific Connector has prepared and would implement a Fire Prevention and Suppression Plan, included as part of its Plan of Development (see section 2.1.6 of the EIS). Although designed for federal lands this plan would be applicable to the entire pipeline route regardless of landownership. The Fire Prevention and Suppression Plan includes requirements that Pacific Connector would coordinate with appropriate land owners and local fire districts to ensure that fire prevention and suppression activities consider pipeline safety. In addition, as part of the proposed action, Pacific Connector would fund various mitigation projects on federal lands which would include numerous fire suppression efforts (see section 2.1.4, 4.1.3, and 4.5.1.3 of the EIS). Fire suppression efforts on federal lands would also benefit private lands by reducing the potential for fires that could spread to adjacent private lands. Intense heat would be required to impact the integrity of a welded steel pipeline. In one study, soil temperature from intense slash pile burns reached a maximum of only about 50 degrees celsius (122 degrees fahrenheit) at a depth of about 24 inches directly under the burn pile (Massman, et al 2008).

CO34-82

Fires are addressed in section 4.13 of the EIS. Additional text on fires will be added so section 4.5.

CO34-83

On page 4-381 of the DEIS, the number of waterbodies includes all surface water conveyances, including man-made ditches. On page 4-582 of the DEIS, man-made ditches are not included because that section is addressing fish. Waterbody crossings are identified in Appendix N, Table N-3. All stream crossings would be completed under the terms of a COE CWA Section 404 permit, the NPDES Construction Stormwater Permit (CWA Section 402), and CWA Section 401 water quality certification requirements. Detailed design drawings are included in the applications for permitting water body crossings with the COE and DEQ. These details are not required to be included in the EIS.

As stated on page 4-355 of the DEIS and in the Groundwater Supply Monitoring and Mitigation Plan, pre-construction surveys would be conducted to confirm the presence and locations of all groundwater supplies for landowners within and adjacent to the proposed pipeline right-of-way. This cannot be completed now because most landowners have not given permission for surveys on their land. On page 4-351 of the DEIS, Pacific Connector has stated that it would further verify exact locations of springs and seeps during easement negotiation with landowners. Only after approval of the EIS will the surveys for wells, springs, seeps, and drain tiles be conducted.

20150213-5259 PERC PDF (Unofficial) 2/13/2015 3:29:00 PM

In addition, the application does not identify the location of all wells, springs, and seeps within 150 feet of the construction right-of-way for the pipeline. Springs and seeps supplied by shallow groundwater could be affected by the pipeline project. In particular, if the pipeline is located up-gradient of a spring or seep location. DEIS at 4-355.

Unless and until the applicants provide a consistent and complete list of waterbodies that would be affected by the proposed action, and name each affected waterbody, the application fails to contain the mandatory minimum information required under OAR 340-048-0020(2)(c), (e) and (f) and must therefore be rejected as incomplete.

We note that of the water bodies identified, many are already impaired. The project would cross at least 35 waterbodies that are listed on the 303(d) list as impaired for various parameters, including temperature, dissolved oxygen and sedimentation. An approved TMDL exists for the South Umpqua and Rogue.

The 2008 Rogue TMDL covers temperature and bacteria. As discussed in more detail in Section 2.4 the proposed action would result in 'obvious stream heating.' The Rogue TMDL allocates reserve capacity to accommodate future growth as well as to provide an allocation to any existing source that may not have been identified during the development of the TMDL. The applicants have not demonstrated that there is sufficient reserve capacity in the Rogue TMDL for increased temperatures to accommodate this project and allow for anticipated growth and development of the Rogue Valley, one of the fastest growing areas in the state.

In addition to temperature, West Fork Trail, Indian and Lick Creeks in the Rogue Basin are listed on the 303(d) listed for dissolved oxygen. The pipeline would cross all three of these creeks. The 2008 EPA approved Rogue Basin TMDL states:

At the time of the writing of this TMDL, there were insufficient data to address the Rogue River Basin dissolved oxygen listings...DEQ intends to re-visit the Rogue River Basin dissolved oxygen impairments when the temperature and bacteria TMDLs are reviewed, on a 5 year basis.

DEQ does however expect that improvements in dissolved oxygen levels will occur as a result of implementing the Temperature TMDL. Stream temperature has a significant impact on the dissolved oxygen level in a stream in two ways. As stream temperatures decrease, the amount of oxygen that can remain dissolved in water increases, and as temperatures decrease the amount of oxygen consumed by biological processes decreases.

There are a number of causes of increased stream temperatures in the Rogue River Basin...It is anticipated that decreasing stream temperatures as required for nonpoint source heat load allocations in the Temperature TMDL will also reduce dissolved oxygen impairments. Surrogate measures to reduce nonpoint source heat loads include percent effective shade targets and hyporheic flow percentage

CO34-83
continued

CO34-84

CO34 Continued, page 52 of 138

CO34-84 As stated on page 4-371 of the DEIS, compliance with Oregon water quality standards and applicable TMDLs would be addressed during the CWA Section 401 water quality certification processes prior to construction.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 53 of 138

targets. DEQ encourages the long-term monitoring of dissolved oxygen on the 303(d) listed streams in the Rogue River Basin.

Available at <http://www.deq.state.or.us/WQ/TMDLs/rogue.htm#rb>.

In addition, South Fork Little Butte Creek is also 303(d) listed as impaired for sedimentation. The 2008 Rogue TMDL states:

At the time of the writing of this TMDL, DEQ is in the process of developing a sedimentation assessment methodology that could be used for implementing the narrative sedimentation standard. When the methodology and associated guidance is completed, the agency will establish sedimentation TMDLs for those waterways on the 303(d) list. DEQ also intends to re-visit the Rogue River Basin sedimentation impairments when the temperature and bacteria TMDLs are reviewed, on a 5-year basis.

DEQ does however expect to see decreases in sedimentation as a result of implementing the Temperature TMDL ... Sedimentation results from either stream channel or upland erosion. Disturbances that change riparian vegetation, increase the rate or amount of overland flow, or destabilize a stream bank may increase the rates of stream bank erosion and result in sedimentation increases. Disturbances in the uplands that remove vegetation, reduce soil stability on slopes, or channel runoff can increase sediment inputs (DEQ 2003, DEQ 2007). Sediment created from upland erosion is delivered to a stream channel through various erosional processes. Wide mature riparian vegetation buffers filter sediment from upslope sources as well as stabilize stream banks from erosion. System potential riparian vegetation measured by percent effective shade is a surrogate measure that has been used in other TMDLs to address sedimentation (DEQ 2003). Percent effective shade targets for the Rogue River Basin were set in the Temperature TMDL. DEQ encourages the long-term monitoring of sediment related parameters on the 303(d) listed streams in the Rogue River Basin.

Id.

Furthermore, with regard to peak flows in the Rogue Basin, the DEIS states that streams already listed on the 303(d) list will be further impacted:

The greatest forest clearing disturbance within the transient snow zone on a percentage basis would occur within the Spencer Creek Watershed. The pipeline would disturb a total of about 126 acres of forest within the 21,913-acre transient snow zone within the 54,242-acre watershed.... When considering forest vegetation disturbance within the transient snow zone, the pipeline would also have the highest percentage of forested disturbance within the Trail Creek Watershed, disturbing about 107 acres of forested vegetation types within the 30,107-acre transient snow zone in the 35,343-acre Trail Creek Watershed.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The Little Butte Creek fifth-field watershed would have the largest area disturbance by the Project that is located within the transient snow zone with about 434 acres”

DEIS at 4-398.

The 2009 FEIS stated:

Fluvial erosion represents potential hazard to the proposed pipeline where streams are capable of exposing the pipe as a result of channel migration, avulsion, widening, and/or streambed scour. The principal hazard resulting from channel migration and streambed scour is complete or partial exposure of the pipeline within the channel from streambed and bank erosion or within the floodplain from channel migration and/or avulsion.... two crossings were identified that require additional field reconnaissance; West Fork Trail Creek and North Fork Little Butte Creek.

2009 FEIS at 4.3-36.

The 2014 DEIS omits this analysis. However, it is unclear what, if any additional reconnaissance has been completed. In addition, the 2009 FEIS stated that, “the assessment recommended burial of the pipeline at least 5 feet below the surface at Indian Creek (MP 128.6) due to channel migration concerns.” 2009 FEIS at 4.3-37. The DEIS does not contain the recommended condition.

TMDLs for the Coos, Coquille, Upper Klamath and Lost River subbasins have not been completed.

2. Sedimentation and Turbidity from Stream Crossings

The DEIS 4:599-604 conducted modeling to estimate suspended sediment impacts to fish associated with stream crossing. These studies demonstrate that the dam and pump technique (a.k.a. dry cut) creates less suspended sediment than wet cut and effects would be non-lethal. However, there is no certainty that the proposed dam and pump technique will be used in every stream crossing. The DEIS is not based on the best available science because it does not require systematic suspended sediment monitoring during the first phase of construction where impacts are known to be the greatest due to the large amounts of fine sediments at these stream crossings. While anecdotal observations by EI’s are certainly necessary, we assert that scientific monitoring of suspended sediment is also warranted for at least the first phase of construction where fish are at most risk due to high amounts of fine sediment.

The DEIS is not based on the best available science because it fails to adequately disclose, analyze or monitor fine sediment deposition subsequent to stream crossings. Increased fine sediment deposition below the stream crossing is likely to despoil fish spawning and rearing habitat. Assertions of “minor” impacts are not science based.

CO34-85

CO34-86

CO34 Continued, page 54 of 138

CO34-85 As discussed in Section 4.4.2.2 on page 4-393 of the DEIS, the GeoEngineers 2013 Channel Migration and Scour Analysis for the Pacific Connector Gas Pipeline Project in Southern Oregon identified crossings with site-specific analysis and West Fork Trail Creek and North Fork Little Butte Creek are included in the list. The GeoEngineers report included recommendations to mitigate for scour or channel migration included burring the pipeline below depth of streambed scour and 50-year channel projections.

CO34-86 See response to CO2-7.

20150213-5259 PERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS 4-74 states:

A literature review of pipeline stream crossing studies showed this method to be effective at controlling sediment. During construction, the crossing site is isolated from the stream by dams, and water is pumped around the site to maintain downstream flows. When dams and pumps are removed and the stream is allowed to flow across the crossing site, there may be a short-term (typically a few hours) pulse of sediment that will vary by substrate type. When compared to sediment mobilized by natural disturbance events such as fires and high-intensity precipitation, the sediment created is expected minor, short-term and well within the range of natural variation and comparable in scale to a minor bank slough.

Comparing the sediment discharge to natural disturbance events is disingenuous and misleading because during the summer when stream crossings would occur there are no natural sediment creating disturbances and streams would be expected to be clear with no natural induced increased sediment. Introducing sediment into a clear stream during stream crossings is an adverse impact that needs to be quantified with scientific monitoring and not summarily dismissed with subjective, qualitative and misleading descriptors (e.g., “minor”, “within the range of natural variability”).

The DEIS is not based on best available science because it has not established baseline physical and biological conditions at and below stream crossings. The DEIS cannot assert “minor” impacts if it has not established baseline conditions. A project of this size must establish baseline stream conditions for “miles” of stream habitat because of the numerous and variable stream conditions along the pipeline route.

Stream habitat is linear and needs to be analyzed as a linear phenomenon. The DEIS is not based on the best available science because it has not analyzed impacts to linear stream miles of fish habitat.

CO34-87

Finally, we note that construction of pipeline stream crossings appears virtually certain to violate Oregon’s statewide and basin-specific water quality standards for turbidity. Under OAR 340-041-0036 (Turbidity):

No more than a ten percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities and which cause the standard to be exceeded may be authorized provided all practicable turbidity control techniques have been applied and one of the following has been granted:

- (1) Emergency activities: Approval coordinated by the Department with the Oregon Department of Fish and Wildlife under conditions they may prescribe to accommodate response to emergencies or to protect public health and welfare;
- (2) Dredging, Construction or other Legitimate Activities: Permit or certification authorized under terms of section 401 or 404 (Permits and Licenses, Federal

CO34 Continued, page 55 of 138

CO34-87 The project considered both the number of crossings of streams section (4.6.2.3) which would each be about 75 feet wide and the area of riparian vegetation affected at crossings (Table 4.6.2.3-6). Additionally concentrations of suspended sediment distances below crossings was modeled for sedimentation and turbidity effects from pipeline installation in section 4.6.2.3.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Water Pollution Control Act) or OAR 14I-085-0100 et seq. (Removal and Fill Permits, Division of State Lands), with limitations and conditions governing the activity set forth in the permit or certificate.

Put more simply, a violation of Oregon's water quality standard for turbidity occurs when an activity causes a more than 10% increase in natural turbidity levels, unless the activity is necessary to accommodate essential dredging, construction or other legitimate activities *and* all practicable turbidity control techniques have been applied.

It is certain that the proposed action would cause a more than 10% increase in natural turbidity levels. According to the DEIS, background turbidity levels range seasonally from 5.7 to 45.7 milligrams per liter total suspended solids, and Jordan Cove's hydraulic cutterhead dredge would generate total suspended solids up to 500 mg/l. DEIS at 4-359.

JPA Stand Alone Document 1 contains the applicant's assessment of water quality impacts risks from the various stream crossing methods, and concludes that 272 crossings are at moderate risk for impacts from turbidity, 294 at moderate risk from nutrients, and 276 at moderate risk for impacts from metals. However, the report offers no analysis of practical effect of this conclusion, other than to assert that the use of BMPs "meet the standard in Oregon turbidity rules that require 'all practicable turbidity control techniques have been applied.'" (JPA Stand Alone Document 1 at 20). The analysis fails to address whether the projected increases in turbidity exceed the 10% increase standard in Oregon's narrative criteria, but instead simply asserts that the project complies with the Section 401 criteria because turbidity control techniques are proposed. This analysis fails to address cumulative effects within the watersheds or individual waterways and does not explain how "moderate" risk of impacts from turbidity are consistent with Oregon's water quality standards.

In the event that the proposed HDD crossing fails at the proposed Klamath or Rogue Rivers, Pacific Connector's contingency crossing plans would be wet open-cut crossings at approximately the same location as the proposed HDD crossings. Wet open-cut methods produce more suspended sediments and turbidity than dry open-cut methods, as it would be completed in the flowing waterbody. Should either of these HDD crossings fail, Pacific Connector would be required to obtain all necessary permits and authorizations for in-water construction from the appropriate agencies prior to commencing an open cut crossing.

Because it is certain that the proposed action would cause a more than 10% increase in natural turbidity levels, DEQ must find that the proposed action violates Oregon's water quality standard for turbidity unless the activity is necessary to accommodate essential dredging, construction or other legitimate activities *and* all practicable turbidity control techniques have been applied. Even if we grant that the proposed action were necessary to accommodate essential dredging, construction or other legitimate activities, the proposed action violates Oregon's water quality standard for turbidity because all practicable turbidity control techniques have not been applied. Under these circumstances, DEQ is required by OAR 340-041-0036 to find that the proposed action violates Oregon's water quality standard for turbidity.

CO34 Continued, page 56 of 138

CO34-88 Monitoring of water quality during dredging will be conducted to ensure compliance with ODEQ water quality certification during construction.

CO34-88

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS 4:39 states that 103 red tree vole sites will be adversely affected which requires NW forest plan amendments to allow the destruction of habitat and the killing of voles. This is an unprecedented amount of take and certainly contributes to reduced viability of red tree voles in southern Oregon. The red tree vole in southern Oregon is a candidate species for listing.

CO34-89

3. Impacts, Risks, and Contingencies for Horizontal Directional Drilling

HDD crossings, when successful, have impacts in areas adjacent to rivers where staging and construction areas occur. HDDs also require the disposal of materials extracted from the drill hole. HDD attempts frequently fail, causing drastic impacts to water quality and fish habitat. According to Williams' own experience, large-diameter HDDs frequently fail. In recent history, many HDD attempts along the 12-inch Coos County pipeline failed, resulting in "frac-outs," situations in which large amounts of sediment and bentonite clay (used as a drilling lubricant) were released into streams. Bentonite clay and sediment released through frac-outs can disrupt fish spawning habitat, increase turbidity, and potentially introduce other contaminants to impacted waterways. The 2009 FEIS states at 2-97: "...there are two problems that may occur during the use of an HDD. First, there may be an unintentional release of drilling mud, forcing its way to the surface through underground fissures. This situation is termed a 'frac-out.' Second, the drill may be blocked by unexpected substrata soils or geological conditions (such as gravel or boulders)." The current DEIS does not mention the second problem of blockage by unexpected substrata soils or geological conditions. DEIS at 4-387. The DEIS briefly discusses the possibility of frac-out.

CO34-90



CO34 Continued, page 57 of 138

CO34-89 Note that only the North Oregon Coast distinct population segment of red tree vole is a federal candidate, so the population crossed by the Project does not have a federal (ESA) status. (see <http://www.fws.gov/oregonfwo/Species/Data/RedTreeVole/>).

CO34-90 As stated in Section 4.4 on page 4-387 of the DEIS, to deal with the potential for HDD failure or the possible release of drilling mud during an HDD, Pacific Connector developed two separate plans: Failure Mode Procedures for the HDD Pipeline Installation Method and Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM



The photographs above document a frac-out that led to sedimentation and a huge release of bentonite clay into the Coquille River during construction of the 12-inch Coos County pipeline. A similar HDD failure on the Rogue River would severely impact water quality and salmon habitat. Bentonite clay is highly detrimental to salmon spawning habitat. In addition, the DEIS states that drilling mud "can include additional additives specific to each drilling operation" and "Pacific Connector would approve any additive compounds" but does not disclose what these additives might include. DEIS at 4-387.

4. Hydraulic Alteration at Each Pipeline Stream Crossing

The pipeline will cross tributaries and mainstream rivers within the Coos, Coquille, South Umpqua, Rogue and Klamath basins, most of which are impaired for several water quality parameters. The applicants have not provided analysis of potential risk for hydraulic and geomorphic alteration upstream and downstream from the impact areas. DEQ requested the applicants provide risk assessment for stream crossings based on fluvial geomorphic analyses as recommended by the U.S. Fish and Wildlife Service for all proposed stream crossings. The applicants did not provide this information.

5. Potential Interference of Subsurface Flow Regimes from Pipeline Construction

The applicants have not provided information demonstrating the potential effects of pipeline construction, including streambed and bank disturbance and placement of pipe and backfill, on the hyporheic regimes of affected waterbodies. As noted by DEQ, rerouting of subsurface water or prevention by barriers (such as buried pipes) of subsurface flows interacting with stream flows can increase temperature. These interactions have a greater impact at low flow periods, when baseflow impacts are critical. Hyporheic exchange often allows for cool water pockets, providing

58

CO34 Continued, page 58 of 138

CO34-91 As stated on page 4-387 of the DEIS, Pacific Connector would approve any additive compounds prior to use by the drilling contractor to ensure compliance with all applicable environmental and safety regulations. Toxic additives would not be used in the bentonite drilling mud for the Pacific Connector HDDs. Note that the example given is from a County project. The County did not have FERC's expertise in designing and building pipelines.

CO34-92 The applicant has updated the Stream Crossing Risk Analysis (PCGP February 13, 2015) and consulted with USFWS (Janine Castro February 11, 2015) concerning the evaluation of pipeline stream crossings. They have developed crossing designs for those streams considered at risk based on the USFWS Pipeline Screening Risk Matrix, for sites they had access to. This analysis was done for stream crossings for the whole route independent of fish presence. They also have developed a host of actions (see new report) that would be taken at sites depending on site specific conditions that would be determined prior to construction. They have included input for sites of concern on BLM and Forest Service lands in the assessment and designs. They will conduct surveys of streams that they currently do not have access to once they obtain permission from the landowners to finalize the risk status and proceed appropriately as was done at accessible sites. They have developed a monitoring plan for the crossing sites to determine where issues may arise post construction and indicated they would take remedial actions if needed based on permit requirements. Other specifics requirements for the crossings will made through the state and federal permitting process. Updated information has been included in the EIS text.

CO34-93 As discussed in Section 4.4.2.2, Pacific Connector conducted a hyporheic exchange analysis on the waterbodies and ditches crossed by the pipeline (GeoEngineers 2013d). The assessment focused on determining if construction has the potential to affect the structure and function of the hyporheic zone, and if so, which stream crossing may be most sensitive to changes in hyporheic zone structure and organization.

While the potential impact of pipeline construction on hyporheic exchange is considered to be low at all stream crossings considering the proposed construction methods, Pacific Connector proposes additional measures to further reduce the potential for even localized impacts to water quality from hyporheic exchange at the stream crossings identified as having high hyporheic sensitivity. These additional measures include documenting streambed stratigraphy prior to construction. As described in the Stream Crossing Risk Analysis (GeoEngineers 2013c), once the Project is approved and all permits and route access obtained, all stream crossing would have a pre-construction survey to confirm and clarify conditions developed in the risk analysis.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

thermal refuge for migrating cold water fish like threatened Coho salmon. In addition, other water quality parameters including pH and dissolved oxygen can be impacted by disturbances to hyporheic exchanges.

CO34-93
continued

6. Post-Construction Restoration at Stream Crossings

Several stream crossing methods are proposed for different types of streams. With the exception of some of the larger water body crossings, specific crossing methods for specific stream reaches have not been identified. One proposed method for "dry" streams is to "dry cut." First, this method assumes that streambeds are actually dry with no subsurface flows during construction. Second, the methods do not explain how streambeds will be restored to avoid impacts to water quality following re-watering of the streams.

CO34-94

7. Impacts to the Rogue River

We offer the following thoughts about the particular impacts of pipeline construction and stream crossings on the Rogue River, and the need for mitigation thereof.

Full review and public comment on Rogue River crossing alternatives in the event of an HDD failure should occur prior to the issuance of the Final EIS. It is not appropriate to wait until an HDD failure to address a construction failure of this environmental and economic significance. If both the wet open-cut crossing and overhead alternatives are found to be unacceptable during this review, The final EIS should include a statement that the proposed Rogue River crossing site will be abandoned in the event of an HDD failure. A failure should be defined as two unsuccessful attempts with the pilot hole, hole opening or pullback stages of the HDD. Alternatives in the event of an HDD failure are not discussed or referenced in the DEIS (see pages 4-386-388).

CO34-95

In the event of a frac-out, the HDD Contingency Plan and Failure Procedure proposed by PCGP (Appendix 2H attached to Resource Report 2 of their application to the FERC) should be strengthened to provide additional protection to the environmentally sensitive Rogue River. The HDD Contingency Plan and Failure Procedure should be modified to provide that drilling fluid pumps will be shut off and drilling will not resume until designated Federal and State inspectors visit the site, insure that appropriate containment procedures have been implemented, and approve resumption of drilling.

CO34-96

Page 4-825 included a statement that use of HDD technology would avoid direct impacts on the river and would have no direct impacts on recreational users of the river. This is only true if the HDD is successful. HDDs can, and do, fail.

CO34-97

Pacific Connector should be required to post a bond for costs of any clean-up or environmental damage caused by the inadvertent release of drilling mud resulting from HDD operations.

CO34-98

The DEIS states that the closest existing residence to the west end of the Rogue River HDD section is about 740 feet from the probable equipment location and the closest residence to the eastern end of the Rogue River HDD section is about 340 feet from the probable equipment

CO34-99

59

CO34 Continued, page 59 of 138

CO34-94 As stated on page 4-381 of the DEIS, a table of crossings with the proposed crossing method is included in Appendix N (table N-3). The ECRP (Appendix I of the POD) identifies temporary and permanent erosion control measures and site specific mitigation measures. As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, quarterly for 2 years after construction. Any adverse issues found during the monitoring with channel stability or habitat would be remediated. Additional monitoring would occur periodically over a 10-year period with implementation of remediation as needed.

CO34-95 This is discussed in section 4.2.2.2 (page 4-386 to 388).

CO34-96 The backup plan for crossing the Rogue River is discussed in section 4.4.2.2, "to deal with the potential for HDD failure or the possible release of drilling mud during an HDD, Pacific Connector developed two separate plans: Failure Mode Procedures for the HDD Pipeline Installation Method and Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations." All stream crossings would be completed under the terms of a COE CWA Section 404 permit, the NPDES Construction Stormwater Permit (CWA Section 402), and CWA Section 401 water quality certification requirements. As discussed in section 2.5.1 and 4.4.2.2, Pacific Connector would employ EIs to ensure compliance with specifications during construction (and restoration). In accordance with the FERC's Plan, the EIs would have the authority to stop work and order corrective actions for activities that violate the environmental conditions of the FERC Certificate and other permit authorizations.

CO34-97 Comment noted.

CO34-98 Comment noted. The FERC does not require that either Jordan Cove or Pacific Connector post bonds. However, Jordan Cove's June 10, 2014 MOU with the ODE requires the posting of a bond to cover retirement costs. Also, both companies would have insurance to cover the unlikely event of an incident.

CO34-99 Comment noted. Mitigation at the HDD Rogue River crossing would be conducted in compliance with the FERC regulations. See 4.12.2 and table 4.12.2.4-7.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

location. Additionally, the noise levels on the west side of the river are significantly less as shown on Table 4.12.2.4-7 and Table 4.12.2.4-8. In view of the above information, request that the drill entry point be on the west side of the river.

CO34-99
continued

If actual noise levels exceed the dBA standard (above), drilling operations must be shut down until compliance with the standard is achieved. Noise monitoring should be continuous during drilling and pull back operations and procedures in place for shutting down immediately if noise levels are exceeded.

Page 4-396 of the DEIS identifies the Rogue River crossing as a potential hydrostatic source location with an estimated volume of 8,770,257 gallons. Specifics of the withdrawal, including analysis and impact, must be provided and made available for public comment before any permit is issued. Needed details include how the river will be accessed (i.e. from which side of the river), road construction to the river, equipment utilized and exactly how the water will be transported to the pipe (since it is a considerable distance to the drill entry and exit sites under the Rogue). Strongly recommend that the Rogue River not be used as a water source for hydrostatic testing. The public should have 30 days to comment on the Hydrostatic Test Plan once it is submitted.

CO34-100

CO34-101

Appendix P of the DEIS (Pacific Connector's Proposed Modifications to FERC's Plan and Procedures) includes 28 pages of site-specific variances to FERC's Wetland and Waterbody Procedures and Upland Plans. The variance at MP 122.00 & 122.6 talks about access to the river for a water source (Hydrostatic, HDD, dust abatement) and for potential frac out response. This is the only place in the DEIS where vehicle access to the Rogue River is mentioned (there is currently no road access to the river at the proposed crossing site). Road construction or equipment traffic to the edge of the Rogue River crossing site should not be allowed for any purpose. Water for dust abatement along Old Ferry Road (OFR) and the east side of the Rogue River should come from an existing access road along the Rogue River, presumably where OFR comes within a few feet of the river at flood rock. The Rogue River as a source of water for dust is not mentioned in the main body of the DEIS. Rogue River water for hydrostatic testing is addressed in the following comment.

CO34-102

The GeoEngineers report included in Appendix 2H attached to Resource Report 2 (Rogue River HDD – Preliminary Feasibility Analysis, File 8169-021-00, Task 1200) states: "The HDD entry workspace may be accessed via a private drive off of Old Ferry Road and will likely require clearing and extensive grading improvements prior to construction". These "extensive grading improvements", which may have water quality environmental consequences due to their proximity to the Rogue River, should be detailed now in the EIS rather than waiting until construction begins, so they may be addressed in the 401/404 permitting process.

CO34-103

The Old Ferry Road (OFR) Committee disagrees with your recommendation. The problems associated with the use of OFR are not adequately addressed in the DEIS. The thrust of the language in the DEIS is more about justification for the use of OFR rather than addressing the issues that would be created by its use. Of central concern are three issues:

CO34-104

CO34 Continued, page 60 of 138

CO34-100

The EIS will not include detailed information on the specific locations chosen for water withdrawal. As stated in Section 4.4.2.2, if water for hydrostatic testing would be acquired from surface water sources, Pacific Connector would obtain all necessary appropriations and withdrawal permits, including from the ODWR, prior to use. As part of this process, ODWR would have the applications reviewed by ODEQ and ODFW to determine if there are concerns about the impact water withdrawals may have on water resources, (including concerns relating to the timing, seasonality, and method of withdrawal), as well as water quality and/or fish and wildlife species and the habitat, respectively. ODWR would provide public notice and opportunity to comment on the applications.

CO34-101

The EIS will not include detailed information on the specific locations chosen for water withdrawal. As stated in Section 4.4.2.2, if water for hydrostatic testing would be acquired from surface water sources, Pacific Connector would obtain all necessary appropriations and withdrawal permits, including from the ODWR, prior to use. As part of this process, ODWR would have the applications reviewed by ODEQ and ODFW to determine if there are concerns about the impact water withdrawals may have on water resources, (including concerns relating to the timing, seasonality, and method of withdrawal), as well as water quality and/or fish and wildlife species and the habitat, respectively. ODWR would provide public notice and opportunity to comment on the applications.

CO34-102

If the Pacific Connector Project is approved, Pacific Connector would be allowed use of its proposed construction right-of-way for activities requested in its application to FERC. Although the section of right-of-way between the HDD entry and exit sites would not be cleared of vegetation, this area may be used as required to access the river. Typically, it is necessary to lay guide wires along the HDD drill path (see EIS section 2.4.2.2). In addition, Pacific Connector has proposed to use the Rogue River as a potential source of hydrostatic test water (see EIS table 4.4.2.2-10). Pacific Connector did not identify the Rogue River as a potential source for dust suppression (see EIS table 4.4.2.2-9). If Pacific Connector requires water from the Rogue River for dust suppression as noted by this comment based on information in Appendix P, it would need to make this request along with justification prior to approval. Water use for hydrostatic testing or dust suppression would be subject to all applicable permits.

CO34-103

The details for obtaining 401/404 permits are not required to be included in the EIS. After FERC approval of the project, final design will be completed and applications for 401/404 will be submitted and approved prior to construction.

CO34-104

A 16-foot-wide is desired. The existing road is 12 feet wide. The footnote states that brushing and other work would be needed of the Old Ferry Road. Brushing along the existing road would create a 16-foot cleared area for vehicles. We fail to see why the Law Center believes that build 1.4 miles of new road through the forest would have less impact than brushing, grading and adding gravel to the existing and widening the road at a sharp turn.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

First, the extent of OFR modifications to accommodate HDD drill rigs and associated equipment, trucks to remove drill tailings and vegetation/lumber from the ROW, trucks to haul pipe and pipe laying equipment. The DEIS (3-48) includes a statement that "the road would need to be approximately 16 feet wide while footnote b (3-50) states that "The existing road prism of OFR is estimated to be an average of approximately 12 feet in width". There is no explanation for this disparity which does not support the statement (3-51) that "Improvement could be limited to several turn outs, curve widenings and one staging area". We believe that the actual road modification will be much greater than stated. Where OFR runs along the Rogue River at flood rock, road modification to 16 feet would require widening within 10 feet of the river or rock removal and possible blasting on the up-hill side of the river.

CO34-104
continued

Second, the volume of traffic on OFR by duration and type of vehicle to include HDD drilling related equipment and truckloads of drill tailings, clearing vegetation/lumber from the right-of-way, truckloads of pipe (including total length of pipe propose to be transported via OFR), pipe laying equipment and vehicles transporting workers. The DEIS does not address the length of the pipeline ROW that will be supported by OFR. The distance involved will have a huge impact on OFR traffic. Are several miles of pipe being transported to the pipeline ROW via OFR and are several miles of cleared trees and possibly other vegetation being transported to Hwy 62 via OFR? These questions are not answered in the DEIS and raise the concern that the volume and type of construction related traffic on OFR will be much greater than implied. We need answers to these questions.

CO34-105

Third, OFR road management during (and after) pipeline construction to include peak traffic hours (by type of vehicle), traffic management, gate management, watering schedule, repair of any road damage or drainage problems through the first winter/spring following completing of construction.

Traffic volume along OFR would be significantly reduced if pipe for mileposts 123.1 to 124.9 were brought in via the Indian Creek Firebreak Road (BLM road 34-1-23). The OFR Committee strongly recommends bringing in pipe for this section via the Indian Creek Firebreak Road. Please address this point in the FEIS (it was not addressed in the DEIS despite this request in my scoping comments).

Pacific Connector has stated that the OFR gate will be replaced with a construction gate during the construction window. Since the gate width of 14 feet is wider than many sections of OFR, we question the need to remove the existing gate during the construction period. Please address this concern in the FEIS.

CO34-106

Page 3-51 of the DEIS states that "The largest TEWA within the VRM II area has also been located in an existing log landing area; therefore, these TEWAs are expected to be consistent with the BLM's VRM II visual quality objectives". We are not aware of any such existing log landing area and therefore fail to see any connection with BLM's VRM II visual quality objectives. VRM II visual quality objectives east of the Rogue River will be addressed separately under the heading of Visual Impact later in these comments.

CO34-107

CO34 Continued, page 61 of 138

CO34-105 As stated in section 3.4.2.9, transporting the pipes 2.2 miles across steep grades (up to 65 percent) would not be safe. Using an existing road, with some improvements, would be much safer.

CO34-106 Pacific Connector stated in its April 27, 2015 filing that based on their understanding, the existing gate along OFR may be an electronic, keypad operated gate. The company would work with landowners to negotiate shared use of OFR and any necessary modifications to the gate to minimize impact to the road owners and accommodate construction traffic.

CO34-107 Comment noted.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 62 of 138

The most appropriate mitigation for OFR residents is to eliminate or minimize the use of OFR for this project.

8. The Pipeline, and Pipeline Stream Crossings in Particular, Will Violate Oregon's Antidegradation Policy.

CO34-108

Under OAR 340-041-0004:

(1) Purpose. The purpose of the Antidegradation Policy is to guide decisions that affect water quality such that unnecessary further degradation from new or increased point and nonpoint sources of pollution is prevented, and to protect, maintain, and enhance existing surface water quality to ensure the full protection of all existing beneficial uses. The standards and policies set forth in OAR 340-041-0007 through 340-041-0350 are intended to supplement the Antidegradation Policy.

(3) Nondegradation Discharges. The following new or increased discharges are subject to this Division. However, because they are not considered degradation of water quality, they are not required to undergo an antidegradation review under this rule:

(c) Temperature. Insignificant temperature increases authorized under OAR 340-041-0028(11) and (12) are not considered a reduction in water quality.

(d) Dissolved Oxygen. Up to a 0.1 mg/l decrease in dissolved oxygen from the upstream end of a stream reach to the downstream end of the reach is not considered a reduction in water quality so long as it has no adverse effects on threatened and endangered species

(7) Water Quality Limited Waters Policy: Water quality limited waters may not be further degraded except in accordance with section (9)(a)(B), (C) and (D) of this rule.

The 2009 FEIS stated:

Clearing and grading of streambanks, removal of riparian vegetation, instream trenching, trench dewatering, and backfilling could result in streambank modification; increased sedimentation; turbidity; increase in temperature, decreased dissolved oxygen concentrations; releases of chemical and nutrient pollutants from sediments; and introduction of chemical contaminants, such as fuel and lubricants. An increase in soil compaction and vegetation clearing could potentially increase runoff and subsequent streamflow or peak flows. Surface waters could be impacted due to alteration of groundwater flow where the pipeline intersects waterbodies.

2009 FEIS at 4.3-31.

CO34-108 The State will determine separately whether the project meets state law.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

DEQ previously expressed strong concern that the proposed action would violate Oregon's antidegradation policy. In its 2008 DEIS comments, DEQ stated:

The project proponent cannot be allowed to further degrade a water quality limited waterbody. According to Oregon Administrative Rule (OAR) 340-041-0004(7) "Water quality limited waters may not be further degraded except in accordance with section (9)(a)(B), (C) and (D) of this rule." Section (9)(a)(B), (C) and (D) specify very limited circumstances where further degradation can be allowed. It is unknown whether this project could qualify for any exception...

The project cannot cause or contribute to water quality standard violations nor discharge pollutants to a stream that already is in violation. If a TMDL has been issued, the project needs to comply with all requirements of the TMDL. If they cannot comply with a TMDL, no discharge is possible and the project probably cannot go forward.

State of Oregon 2008 DEIS comments at 48. As we explain above, the concerns are still valid. In particular, the project will impair temperature, sediment, and dissolved oxygen.

C. Impacts From Road Construction, Maintenance, Modification, and Use

In addition to impacts from the pipeline itself (both on land and in rivers), construction and maintenance of the pipeline will require construction, modification, maintenance, and extensive use of a large road network. This will have numerous additional significant impacts, which we discuss below.

1. Extent and Type of New and Existing Roads Used

The DEIS failed to adequately consider impacts from the Project's new roads. In fact, it was difficult to find in the DEIS how many miles of new, permanent roads will be built, and who would maintain the new roads through time. We are aware that some of the roads being called "existing" are in fact, proposed new roads. For instance, the so-called existing road from south Myrtle Road to MP 85.5 of the pipeline is actually a narrow, illegal, user-created ATV trail. No road has ever been engineered in this location, yet the DEIS calls it an existing road. (This issue was brought up numerous times in Scoping, but FERC ignored those comments.) This is one place where we know this problem exists, so there are likely other areas with the same problem.

The DEIS states that, "Pacific Connector has estimated that modifications of 60 miles of existing access roads may be required outside of the existing road bed ... resulting in about 22 acres of disturbance." In addition, the DEIS states that 2.4 miles of new temporary access roads and 0.9 miles of new permanent access roads would be constructed. DEIS at 2-88. Appendix 8 Table 8A-1 of the JPA includes 31 pages of "Access Roads to and Major Roads Crossed by the PCGP Project," however, this is not the most recent or complete list of roads that will be used for the project. Significant changes have occurred in the location of access roads. *Compare JPA*

CO34-109

CO34 Continued, page 63 of 138

CO34-109 Road information for the PCGP Project has been updated in the FEIS to reflect the most current proposed design. Regarding the road extending from South Myrtle Road, Pacific Connector no longer plans to use this unknown road because it is not functional without a bridge crossing of South Myrtle Creek. The road has been removed from Project maps and tables.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Appendix 8 Table 8A-1 with DEIS Appendix D Table D-2. The application is incomplete and inaccurate without the most recent information.

CO34-109
continued

Roads are one of the most damaging components of a watershed, so the DEIS should have considered how many miles of roads exist currently, and how this project would change that.

2. Impacts of Road Construction, Modification, and Use

Even for the miles of roads that are considered, the DEIS inadequately addresses the aquatic impacts from road use, road modifications (including but not limited to Key Watersheds), temporary extra work area (TEWA) construction, and temporary and permanent access roads. Roads contribute to the disruption of hydrologic function and increase sediment delivery to streams. Roads also provide access, and the activities that accompany access magnify their negative effects on aquatic habitats. Activities associated with roads include fishing, recreation, timber harvest, livestock grazing, and agriculture. Roads also provide avenues for stocking non-native fishes. The DEIS fails to provide complete and accurate maps of roads (existing, proposed, and expanded), specific characterizations of impacts to waterways that would be impacted, details regarding types of roads and how they will be modified, or specific details on long-term maintenance proposed for roads in steep terrain areas.

CO34-110

CO34-111

Road construction has the potential to produce myriad impacts to waters of the U.S.:

- Soil erosion, compaction, loss of forest productivity;
- Pollution: sedimentation, thermal loading;
- Rapid water runoff: peak flows;
- Impaired floodplain function;
- Barrier to movement of wood and spawning gravel;
- Fragmentation: wildlife dispersal barrier;
- Human disturbance, weed vector, hunting pressure, loss of snags, litter, marbled murrelet nest predation, human fire ignition, etc.

Roads have a particularly negative influence on aquatic and riparian ecosystems and organisms. Roads interfere with movement of materials and organisms in three dimensions: upstream/downstream, channel/upland, and surface/subsurface.¹⁵ Roads also act as conveyor belts for delivering chronic sediment to streams.¹⁶

Over the last few decades, studies in a variety of terrestrial and aquatic ecosystems have demonstrated that roads aggravate many of the most pervasive threats to biological diversity, including habitat destruction and fragmentation, edge effects, exotic species invasions, pollution, and overhunting. Roads have been implicated as mortality sinks for animals ranging from snakes to wolves; as displacement factors affecting animal distribution and movement patterns; as

¹⁵ Jim Doyle, Where the Water Meets the Road. Available at <http://web.archive.org/web/20070325061623/http://www.fsl.orst.edu/geowater/RRR/jim/aquahab/index.html>.

¹⁶ Michael Derrig, Road Improvements for Watershed Restoration. Available at <http://www.fsl.orst.edu/geowater/PEP/calfed/derrig/index.html>.

CO34 Continued, page 64 of 138

CO34-110 The applicant has proposed extensive methods to eliminate and minimize erosion that could result from construction related actions. Additionally they will need to meet state water quality and related permits requires from the state and other federal agencies, which may pose additional actions if they are deemed required prior the applicant being allowed to construct the project.

CO34-111 Construction access roads are shown on the pipeline facility maps in Appendix C. Types of roads, existing, new temporary, and permanent access roads are described in Chapter 2. The use and crossing of access roads is discussed in Section 4.10. Impacts to waterways are evaluated in Section 4.4 and 4.6. Pacific Connector filed a Transportation Management Plan (TMP) for federal lands as Attachment 25 of its Plan of Development, and as Appendix 8H to Resource Report 8 for non-federal lands. The TMPs detail the measures, standards, and stipulations to be employed in the use, improvement, and maintenance of roads.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 65 of 138

population fragmenting factors; as sources of sediments that clog streams and destroy fisheries; as sources of deleterious edge effects; and as access corridors that encourage development, logging and poaching of rare plants and animals. Road building in National Forests and other public lands threatens the existence of de facto wilderness and the species that depend on wilderness.¹⁷

From an intensive review of the literature, we conclude that increases in sedimentation are unavoidable even using the most cautious roading methods. Roads combined with wildfires accentuate the risk from sedimentation. The amount of sediment or hydrologic alteration from roads that streams can tolerate before there is a negative response is not well known. It is not fully known which causes greater risk to aquatic systems: building roads to reduce fire risk or realizing the potential risk of fire. More research is needed in this area.

U.S. EPA describes the impacts of roads as follows:

Stormwater discharges from logging roads, especially improperly constructed or maintained roads, may introduce significant amounts of sediment and other pollutants into surface waters and, consequently, cause a variety of water quality impacts. ... [S]ilviculture sources contributed to impairment of 19,444 miles of rivers and streams [nationwide]. ... forest roads can degrade aquatic ecosystems by increasing levels of fine sediment input to streams and by altering natural streamflow patterns. Forest road runoff from improperly designed or maintained forest roads can detrimentally affect stream health and aquatic habitat by increasing sediment delivery and stream turbidity. This can adversely affect the survival of dozens of sensitive aquatic biota (salmon, trout, other native fishes, amphibians and macroinvertebrates) where these species are located. Increased fine sediment deposition in streams and altered streamflows and channel morphology can result in increased adult and juvenile salmonid mortality where present (e.g., in the Northwest and parts of the East), a decrease in aquatic amphibian and invertebrate abundance or diversity, and decreased habitat complexity.

The physical impacts of forest roads on streams, rivers, downstream water bodies and watershed integrity have been well documented but vary depending on site-specific factors. Improperly designed or maintained forest roads can affect watershed integrity through three primary mechanisms: they can intercept, concentrate, and divert water (Williams, 1999).

EPA 2012. Notice of Intent To Revise Stormwater Regulations Federal Register. May 23, 2012.¹⁸

Temporary roads present most of the same risks posed by permanent roads, although some may be of shorter duration. Many of these roads are designed to lower standards than permanent

¹⁷ Noss, Reed; The Ecological Effects of Roads. Available at <http://www.wildlandscpr.org/ecological-effects-roads>.

¹⁸ Available at <http://www.gpo.gov/fdsys/pkg/FR-2012-05-23/pdf/2012-12524.pdf>.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

roads, are typically not maintained to the same standards. While temporary roads may be used temporarily, for periods ranging up to 10 years before decommissioning, their short- and long-term effects on aquatic species and habitats can be extensive.¹⁹

The DEIS fails to disclose the full extent of the road network for pipeline construction or explain how these impacts could be adequately mitigated.

CO34-112

In order to use heavy equipment on these roads, significant road modifications will be necessary, including blading/grading, widening, drainage improvements, and the construction of turnouts and roadside TEWAs. The DEIS does not include detailed descriptions of what activities will be occurring that could impact wetlands, streams, and other waters. Rather, the DEIS relies on blanket statements about the application of best management practices to avoid impacts to streams. By not specifying the location and nature of construction activities associated with all access roads, the DEIS provides an inadequate description of the project.

Specifically, the JPA states in that best management practices (“BMPs”) will be used for culvert replacements. “Culvert replacements that may be required along existing access roads will be completed according to the exemptions specified under OAR 141-085-0020.” However, such roadwork would not be exempt under the rules of OAR 141-085-0020, as this proposal does not constitute maintenance or repair, but instead expansions and modifications to facilitate a major construction project with significant environmental impacts. The FERC, DLCD, Oregon DEQ, and other state and federal agencies must all evaluate the impacts of all construction activities – including culvert replacements – arising from construction of the Pacific Connector pipeline. The current application lacks site-specific information on impacts to resources for both existing and new roads to be constructed, instead relying on broad statements regarding use of BMPs. It is impossible for the public to know which special aquatic sites will be impacted without a detailed and up-to-date description of road construction activities.

On steep slopes, particularly in rainy winter months, similar BMPs have failed in the past to prevent impacts to streams, creeks and ditches. Not only is road construction inadequately described, but also the measures to prevent significant sedimentation and turbidity in streams are neither site-specific nor reliable.

CO34-113

¹⁹ Roadless Area Conservation FEIS — Specialist Report for Terrestrial and Aquatic Habitats and Species prepared by Seona Brown and Ron Archuleta, EIS Team Biologists, Available at http://web.archive.org/web/20040515020554/http://roadless.fs.fed.us/documents/feis/specrep/sbio_spec_rpt.pdf

CO34 Continued, page 66 of 138

CO34-112 Existing access roads, new temporary access roads, and new permanent access roads are described in Chapter 2. Environmental impacts from the road network are discussed in Chapter 4 (roads used for construction are discussed in sections 4.10.1.2 for the terminal and 4.10.2.1 for the pipeline). Mitigation measures are discussed in Section 2.1.4 and 2.1.7, as well as in conjunction with the respective affected resources in Chapter 4. Also see the Transportation Management Plan, and the FERC recommendation that the applicants consult with the State and Counties and submit a revised plan and the comments from the State and Counties to FERC.

CO34-113 The applicant has proposed extensive methods to eliminate and minimize erosion that could result from construction related actions. Additionally they will need to meet state water quality and related permits requires from the state and other federal agencies, which may pose additional actions if they are deemed required prior the applicant being allowed to construct the project.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 67 of 138



During construction of the 12-inch Coos County pipeline in 2003, covering terrain similar to the proposed PCGP, erosion and sedimentation control measures repeatedly failed. The DEIS and DEIS give little specific information to justify the assumption that, particularly in steep areas, BMPs will be adequate to prevent impacts to streams. Pictured above, a silt fence during construction of the Coos County pipeline in 2003 is overtopped by eroding soil, which is then deposited directly into a small tributary stream of the Coquille River. The second photo shows a

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

bale of hay – an erosion control device – that has become lodged in a culvert, resulting in stream cutting through the road itself.

D. Summary of Sedimentation Impacts

The DEIS failed in many ways to properly assess how the pipeline construction and operation will persistently and significantly elevate sediment delivery to affected streams in numerous and additive ways. There is a considerable body of information indicating that ground-disturbing activities that occur within several hundred feet upslope of streams and water bodies have numerous negative and enduring sediment-related impacts on those water bodies and streams.

The DEIS does not recognize the major long-term increases in sediment delivery arising from pipeline stream crossings. The crossing will involve periodic vegetation removal that will be maintained over a 30-foot wide corridor over the pipeline, often in close proximity to streams, on a long-term basis. The crossings will also involve significant soil disturbance and compaction, including that on associated work spaces, in close proximity to streams. All of these impacts significantly elevate erosion and sediment delivery to streams.

Pipeline clearing and severe soil disturbance from excavation possess impacts akin to road construction. Roads undergo elevated erosion for decades, even after obliteration. The soil compaction from pipeline construction activities is likely to persist for decades, and even longer in soil with high clay content, contrary to the alleged “short-term” assumptions in the DEIS. Soil compaction contributes to elevated surface erosion potential by degrading surface and subsurface hydrology in several ways: the ability of soils to absorb, store, and slowly release water and increases in surface runoff increases erosion and sediment delivery. These long-term impacts are ignored and relegated as adequately “mitigated” and viewed as “short-term” when the opposite is true.

The DEIS also fails to reasonably factor in that at and near stream crossings, efforts to the prevent delivery of eroded sediment are usually not completely effective, as is the case with road crossings. As mentioned elsewhere, the DEIS assumes that BMPs will consistently be effective at reducing sediment delivery from pipeline corridors in riparian areas and stream crossings to minimal and transient levels, in direct conflict with available scientific information. The area over the pipeline will periodically be subject to vegetation removal, including trees and shrubs over 15 feet high, on a continuing basis, which will have sediment-related impacts akin to those from logging, which are highly significant and persistent. Significantly elevated erosion in logged areas typically persists for at least five years. This will increase the magnitude and persistence of elevated sediment-delivery from pipeline operation on a continuing basis.

This periodic removal of ecologically important vegetation for pipeline construction and operation will also accelerate bank erosion and reduce bank stability at stream crossings, because trees and deep-rooted vegetation are critically important to bank stability. Decreased bank stability contributes to both stream sedimentation and channel widening. The persistent loss of bank stability associated with pipeline construction and maintenance at water bodies will persistently elevate sediment delivery, although this is never assessed.

68

CO34 Continued, page 68 of 138

CO34-114 The EIS includes discussion of mitigation that would address potential soil compaction (see page 4-320-4-321) - Compaction Potential in section 4.3. The impacts are considered "short-term" due to the extensive measures that would be employed to address compaction including "decompaction to within 10% of adjacent bulk density". The EIS acknowledges that some areas would require additional mitigation to address compaction issues.

CO34-115 As discussed in section 2.5.1 and 4.4.2.2 of the DEIS, Pacific Connector would employ EIs to ensure compliance with specifications during construction and restoration. The ECRP (Appendix I of the POD) identifies permanent erosion control measures and site specific mitigation measures. As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, quarterly for 2 years after construction. Any adverse issues found during the monitoring with channel stability or habitat would be remediated. Additional monitoring would occur periodically over a 10-year period with implementation of remediation as needed.

CO34-114

CO34-115

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Notably, many headwater streams are extremely sensitive to elevated runoff and channel erosion and have poor prospects for recovery after being degraded. Although the pipeline will cross a large number of perennial headwater streams, severely elevating runoff, sediment delivery, and channel erosion, the DEIS fails to provide any sound analysis of these cumulative impacts on downstream fish habitats and water quality. This failure is one of the more severe in the DEIS with respect to sediment impacts on fish habitats, because all stream crossings upstream of fish habitats will cause enduring increases in sediment delivery that will cumulatively elevate sediment delivery to downstream habitats. Downstream fish habitats are highly susceptible to the deposition of sediment delivered from upstream reaches. However, the DEIS does not assess this cumulative effect from all stream crossings at the scale of affected watersheds.

CO34-116

The pipeline will also elevate sediment delivery to streams via the increased use of unpaved roads associated with the construction and operation of the pipeline. Studies have consistently documented that elevated use of unpaved roads vastly elevates sediment delivery from roads to streams, particularly near and at stream crossings, where it is impossible to eliminate the delivery of sediment from road runoff. Therefore, this pipeline impact will also elevate sediment delivery to streams. The elevated use of unpaved roads is a certainty. However, the DEIS fails to address this source of elevated sediment delivery to streams or make known the length and location of roads subject to elevated traffic from pipeline construction and operation.

The DEIS also fails to address that the long-term increases in sediment delivery caused by the pipeline in affected watersheds as a direct conflict with what is needed to restore decimated salmonid populations in coastal lowland streams in Oregon. The restoration needs for salmonids in these downstream reaches relies on reduced sediment delivery and reduction of sediment-related damage to salmonid habitats in order to restore salmonid populations. Elevated sediment delivery and the resulting sediment-related impacts on coho habitat are a major threat to coho and a major factor for their decline. The DEIS ignores these critically important contexts and findings with respect to assessing the significance of sediment-related impacts from the pipeline.

CO34-117

1. Post-Construction

The DEIS 4-74 states:

The analysis discloses that in the first year or two following construction, a minor pulse of sediment could be observed following the first seasonal rain, but this sediment-laden water is likely to dissipate within a few hundred feet and would be indistinguishable from background levels. With the exceptions noted below at MP 119.7, 125.59 and 131.7, this is expected to be a very minor amount of sediment because of the requirements in the ECRP to establish and maintain erosion control structures, sediment barriers, effective ground cover and accomplish rapid revegetation. Pacific Connector has committed to maintain silt barriers until effective ground cover is reestablished. Silt fences are 90 to 95 percent efficient at trapping sediment (Robichaud et al. 2000). As a result of these measures, the Project corridor is not expected to become a chronic source of fine sediments.

69

CO34 Continued, page 69 of 138

CO34-116 Because of the linear nature of the project the number of stream crossing and ultimately total area of stream habitat that would be affected in any watershed (note their 211 actual stream channel crossing in over 230 miles of pipeline route over 19 fifth-field watershed) would be extremely small. Effects to each stream would be limited to the area l near crossing sites. So any cumulative effects would be unsubstantial based distribution of crossings and magnitude of effects at each.

CO34-117 Section 4.6.2.3 concludes that sediment entering fish streams and affects to fish would be primarily short-term and modeling indicates that sediment would likely be within the normal fall/winter turbidity levels within 300 to 500 feet downstream of the crossing. Also crossings would typically be completed during the state-approved in-water work window when potential adverse effects to listed fish would be at their lowest.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 70 of 138

The use of qualitative and subjective descriptors (e.g. “minor”) is not adequate technical analysis for a project of this size and variability. Intense winter rainfall on areas deforested on steep erosive slopes is certain to generate more sediment than the same action on stable flat ground (e.g., farm pastures). The DEIS is defective because it fails to estimate the amounts of sediment generated from erosion during intense winter storms where several inches of rain can occur in a few hours. Sediment generated from forest clearing (i.e. logging) for the pipeline on steep topography is well documented even with the sediment control measures identified (DEIS 4-73). The DEIS 4-74 cites Robichaud et al. (2000) to assert that silt fences are 90-95 percent efficient in trapping sediment. Even if this trapping efficiency is true for post-construction during intense rainfall, this means that up to 10% of the sediment generated during intense rainfall will reach streams. Ten percent delivery of sediment from a large disturbance area is likely to be significant for spawning coho salmon in very small streams.

The DEIS is not based on the best available science because it fails to identify stream miles that could be affected with elevated sediment loads post-construction. Except for stream crossings during construction, the DEIS fails to estimate the increase in turbidity (NTUs), the amount of suspended sediment (mg/ml), or the intensity of sediment laden water that could affect many stream miles located downstream or down slope of pipeline construction.

The DEIS fails to acknowledge severe post construction sedimentation of streams caused by the construction of a much smaller gas pipeline from Roseburg to Coos Bay. The DEIS fails to discuss scientific uncertainty and scientific controversy regarding the effectiveness of sediment control measures identified in the DEIS for coastal areas with known potential for catastrophic erosion/sedimentation. Since sediment control measures failed catastrophically during the construction of a previous gas pipeline, similar sediment discharges would be expected for this gas pipeline because this pipeline traverses the same unstable steep terrain, this pipe is much larger, and the area of disturbance is much larger. The DEIS fails to address the credibility issue surrounding gas pipeline construction in southwest Oregon and associated severe sediment impacts to coho salmon streams from a previous gas pipeline. Assertions of “minor” sediment impacts for this pipeline are not scientifically or empirically substantiated. Data from pipelines constructed in Washington are not directly applicable to the Oregon Coast Range geology.

The DEIS fails to acknowledge likely (during the life of the project) catastrophic sedimentation from landsliding that is associated with pipeline construction or sedimentation that is greatly exacerbated due to the presence of the pipeline (e.g., explosions, fire, loss of stabilizing tree roots and forest cover along pipeline corridor, need to relocate pipeline). See for example: Seismically Induced Landslides and Rockfalls (DEIS 4-265); Landslide Hazards (DEIS 4-266); Rapidly Moving Landslide Risk Assessment (DEIS 4-267); Deep-seated Landslide Risk Assessment (DEIS 4-268-278).

We are not asserting that the installation of the pipeline will “cause” landslides, although it certainly could. What is certain is that the pipeline will exacerbate sedimentation of streams when landslides engulf the pipeline corridor and landslide debris proceeds downslope to enter stream channels.

20150213-5259 PERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS discussion (DEIS 4: 265-278) is from the perspective of maintaining the pipeline infrastructure and avoiding damage to private property. The DEIS 4:269 states: "For the purposes of landslide hazard evaluation in this report, a distinction is made between the hazard associated with a landslide and the risk associated with that hazard. In the following discussions, statements of risk apply to the potential for damage or failure of the pipeline from earth movements. It is recognized that the consequences of a pipeline failure may be catastrophic and involve fire and/or explosion."

The likely delivery of large amounts of sediment to stream systems from landsliding during the life of the project is not quantified. High risk stream miles for landslides are not spatially identified. The DEIS takes the position that landslides are only a threat to the pipeline and ignores the threat to water quality, coho salmon, and critical fish habitat.

The DEIS contains no site specific erosion control structures that could ameliorate sedimentation of streams from large landslides. The DEIS fails to state that erosion control structures intended for surface erosion (DEIS 4-73) would likely be ineffective in preventing large landslide sediment from reaching stream channels (e.g. sediment fences). In fact, such erosion control structures could exacerbate the effects of landslides.

The DEIS 4:612-615 temperature analysis fails to consider landslides (e.g. debris flows, aka rapid moving landslides) that are either caused or exacerbated by pipeline construction. Debris flows could destroy shade for stream segments up to a mile or more of perennial stream as well as coho salmon spawning streams. The DEIS temperature analysis is not based on the best available science.

Similarly, the project is likely to adversely affect proposed critical habitat for coho salmon in the Oregon Coast ESU because debris flows, either caused or exacerbated by pipeline construction, could seriously degrade many miles of coho critical habitat over the life of the project (DEIS 4-645).

The DEIS fails to quantify post-construction sediment from road construction and use. Heavy vehicle use of unpaved access roads during construction will create large amounts of fines on the road surface that will be washed into streams the following winter. This fine sediment delivery is likely to be substantial and will significantly add to baseline sediment. The DEIS appears to lack any specific mitigations for roads that would disconnect the sediment laden road surface runoff from entering streams and subsequently adversely affecting critical coho salmon habitat. Dismissing road related sediment impacts as "minor" due to implementing BMPs is not science based. Even with BMPs roads are known to be a major fine sediment sources impacting small coho streams. Even with watering, large amounts of dust is likely to enter streams as fine sediment. Dust has been found to be substantial source of fine sediment in heavy use areas. The DEIS is not based on best available science because it does not disclose the miles of stream habitat (e.g. critical coho stream miles) that could be impacted by road construction and heavy road use. The DEIS is not based on best available science because it fails to identify pre-project surveys to establish baseline conditions for stream miles that could be affected by increased road related sediment caused by this project.

71

CO34 Continued, page 71 of 138

CO34-118 The applicant evaluated potential landslide areas and modified the route to avoid these areas. Only one field-surveyed moderate risk area located approximately between MP 18.14 and 18.20 just upslope from a small (2-foot-wide) stream, a tributary to Cunningham Creek, is known to be along the route. The overall risk of landslides to be result from the project is not considered significant. The erosion control methods are intended to protect streams from receiving excessive erosion. Because landslides are not considered to be a significant result of project actions their inclusion in effects on temperature is not warranted.

CO34-119 See response to CO34-118.

CO34-118

CO34-119

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS fails to acknowledge that portions of the pipeline corridor will be used by OHV. Determined OHV users, especially hunters, will find access around boulders placed to prevent OHV use. Motorized use will damage erosion prevention measures and newly planted vegetation. Vehicle ruts will funnel winter flows. Ruts will become gullies delivering more than “minor” amounts of sediment to stream channels. The DEIS fails to disclose that effective control of OHV will be very difficult due to the remoteness of the pipeline corridor and numerous points of access. The DEIS fails to establish baseline monitoring protocols to assess OHV damage. The DEIS has failed to develop a coordinated plan with NFS, BLM and private land owners to prevent OHV. We assert that expected erosion control cannot be met if OHV access destroys newly planted vegetation, damages erosion control structures and create ruts, rills and gullies. Inevitable OHV use will be accompanied with the high risk of introducing POC root disease to critical stream habitat. The DEIS fails to disclose that introduction of the POC root disease would decrease shade along streams far more than stream crossings. Assuming effectiveness of mere boulders to prevent OHV use in SW Oregon is naïve to say the least.

CO34-120

The DEIS 4:74 acknowledges 3 exceptions to its assertions about “minor” sediment effects: “At MPs 119.7 (Trail Creek Watershed), 126.59 (Shady Cove - Rogue River Watershed), and 131.7 (Big Butte Creek Watershed), the Project, if constructed, would likely become a chronic source of sediment that may retard attainment of ACS objectives at those locations.” We assert that there are many more exceptions where pipeline construction “would likely become a chronic source of sediment”. First, it appears the DEIS is relying on federal agencies to identify locations “where the Project, if constructed, would likely become a chronic source of sediment”. Only the Medford BLM district has come forward with field data indicating serious sediment impacts from pipeline construction. We assert that similar serious sediment producing sites exist on Coos Bay BLM district, Roseburg BLM district, Rogue River-Siskiyou National Forest and private land ownerships but these entities have not officially identified sediment issues with the pipeline for incorporation into the DEIS.

CO34-121

The DEIS 4-289 states “Because the pipeline would cross a predominance of rugged terrain within BLM and NFS lands, there is potential for previously unidentified landslides or new landslides to affect the pipeline after it is installed.” Similarly there are previously unidentified locations “where the Project, if constructed, would likely become a chronic source of sediment.” Despite these scientific uncertainties, the FERC DEIS takes the indefensible position that since no others sediment sites have been identified by third parties, then no others exist. The DEIS implicit “sediment denial” position is scientifically indefensible for a project of this size. The DEIS is not based on the best available science. The best available science would certainly indicate that there are other known (but undisclosed) or unknown sites where “the Project, if constructed, would likely become a chronic source of sediment”. The DEIS fails to discuss the significance of this scientific uncertainty with respect to sediment impacts to miles of stream habitat (e.g. critical coho salmon habitat).

The DEIS is not based on the best available science because it has not established quantitative baseline erosion rates, baseline stream sedimentation and baseline data for other aquatic parameters for the stream miles that could be affected. The DEIS proposes but has not surveyed stream channels at stream crossings for physical and biological parameters. Protocols for establishing baseline conditions for streams are available for NEPA purposes from ODFW,

CO34 Continued, page 72 of 138

CO34-120 Section 4.10.2.5 of the DEIS discusses the concerns that unauthorized OHV use could adversely affect resources. Locations of particular concern are listed on page 4-850. The Recreation Management Plan describes measures to control unauthorized use. Sediment arising from unauthorized use that occurs despite these control measures is unlikely to have a significant effect on fish and would be more than offset by mitigation to reduce sediment from roads (see table 2.5.2.1).

CO34-121 Of the perennial stream crossings on federal lands, most were addressed early in the planning process and the crossing locations adjusted to avoid high-risk conditions. Besides the Medford District of the BLM, these include Big Creek, Deep Creek, Middle Creek, and East Fork Cow Creek, and the South Fork of Little Butte Creek on the Coos Bay and Roseburg Districts of the BLM and the Umpqua and Rogue River National Forests. Appendix J of the DEIS provides a discussion of compliance with all ACS objectives for each 5th-field watershed that encompasses federal lands. The BLM and FS have worked closely with the applicant and FERC to develop the Erosion Control and Revegetation Plan in a manner that is consistent with all seven LMPs. The Final EIS includes a discussion of site-specific crossing restoration plans for the crossings named above that would be used in addition to measures identified in the ECRP where the ECRP is not sufficient alone to address resource concerns.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

USFS and EPA. The DEIS fails to disclose expected increases of erosion/sedimentation because it has not established baseline conditions for stream miles that could be affected above and below stream crossings. The DEIS fails to report the baseline erosion rates/sedimentation for stream miles with "no action" and various alternatives or proposed actions. Scientific monitoring during the life of the project cannot document adverse impacts if baseline conditions are not established prior to disturbance.

The DEIS is not based on the best available science because its sediment analysis is at 5th field watersheds that are too large to reveal significant impacts to spawning fish. This scale of analysis is not appropriate for a linear project that would adversely affect coho salmon that spawn in 6th and 7th field watersheds.

1. Impacts on Smaller Streams and Waterways

The DEIS fails to adequately assess direct, indirect, and cumulative impacts of pipeline construction and maintenance on small, non-perennial or perennial headwater streams crossed by the pipeline, as well as those crossings' cumulative impacts on downstream salmonid viability. The DEIS appears to generalize impacts on small, non-perennial and perennial headwaters. Doing so understates the importance of headwater streams for affected ecosystems and salmonids in particular.

CO34-122

First, headwater streams, including non-perennial streams, represent the vast majority of watershed's channel system, and exert a large influence on downstream conditions. These headwaters supply the bulk of runoff and material transfers to downstream mainstem river segments, including sediment to downstream segments with salmonid habitat. The DEIS does not accord appropriate significance to the impact its pipeline will have cumulatively on affected headwaters or their downstream segments.

Second, stream crossings affect the frequency and quality of large woody debris, an essential component of fish habitat in the Pacific Northwest. Stream crossings contemplated by the Project will create long-term losses of large woody debris and cumulatively deplete large woody debris in downstream reaches with salmonid habitat. The DEIS does not award appropriate weight to this impact. Failing to assess impacts on large woody debris availability and downstream conditions also affects the DEIS' assessment of impacts on pools, channel form, and salmonid habitat due to the importance of large woody debris to these conditions and the importance of these conditions to salmonid viability.

CO34-123

Third, the DEIS fails to appropriately characterize the significance of pipeline crossings' role in delivering excessive volume of fine sediment to local waterways and resulting impacts on downstream segments. Headwater streams supply the overwhelming majority of water and sediment to downstream habitats. Downstream low-gradient stream reaches are highly susceptible to deposition of sediment transported from upstream reaches. The sediment delivered from upstream reaches degrades a variety of downstream conditions including turbidity and suspended sediment, pool conditions, and substrate. The degradation of these elements of fishery habitat by sediment delivery from upstream channels contributes to reductions in the survival and propagation of salmonids. The DEIS fails to adequately assess the cumulative

CO34 Continued, page 73 of 138

CO34-122 The section 4.6.2.3 addresses impacts to all stream channels crossed. Also see response to CO34-116.

CO34-123 The effects of reduced LWD supply were addressed in section 4.6.2.3. Additionally the applicant will mitigate this loss with addition of LWD at the crossing with about 1 to 4 pieces per crossing in each 75 foot wide clearing. The permitting process may modify this mitigation if needed to ensure limited affects to fish resources.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 74 of 138

CO34-124 Comment noted.

impacts of the majority of stream crossings and of all crossings of all streams on downstream fish habitat at the watershed scale. This is particularly important because headwater reaches are extremely sensitive to disturbances, including increases in sediment delivery and transport and runoff, all of which will be increased by pipeline crossings for a long term. Indeed, even small increases in peak flows at headwater streams can trigger significant increases in channel erosion and downstream sediment transport! Headwater streams are also sensitive to upslope impacts, due to the steeper slopes associated with these streams. Many headwater streams have extremely poor potential for post-disturbance recovery. The DEIS does not reasonably account for these important characteristics of headwater streams or sediment transport and delivery and resulting impacts.

E. Wildlife Issues.

This section of our comments focuses on plant and wildlife impacts of the 230-mile Pacific Connector Pipeline. Our comments show that the impacts are more severe than the DEIS considers, and the mitigations proposed are inadequate.

Under 40 C.F.R. § 230.30(b):

The major potential impacts on threatened or endangered species from the discharge of dredged or fill material include: ...

(3) Facilitating incompatible activities.

The proposed action would facilitate incompatible activities in the form of a 232-mile-long, 36-inch-diameter welded steel underground interstate natural gas pipeline that would run a 95° clear-cut right of way through and degrade critical habitat for endangered species, including the Northern Spotted Owl (NSO) and the Marbled murrelet.

The pipeline right-of-way would clearcut over 2,080 acres of southern Oregon forests, removing 34,746 mbf (over 7,000 log truck loads) of trees. Over half of this will come from public forests (17,379 mbf) and approximately 80% of that is from reserves set aside to protect rare species. 14,215 mbf will be from mature and old growth forests with an average DBH of 39".

This unprecedented logging of rare habitat means Pacific Connector must ask for numerous exemptions from regulations protecting at least 13 threatened and endangered species. This project is "likely to adversely affect" five endangered plant species in the path of the pipeline, two birds who nest in or near the pipeline route, five species of fish and one invertebrate who depend on streams, and wetlands the pipeline will cross.

1. Marbled Murrelets (*Brachyramphus marmoratus*)

The pipeline right-of-way runs through prime old-growth marbled murrelet habitat.

CO34-124

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

There are 173 occupied murrelet stands within a quarter mile of the proposed action that would be affected. 926 acres of murrelet habitat would be clearcut, including about 58 acres of suitable habitat removed from 25 stands.

2,264 acres of murrelet habitat would be within 300 feet of newly created edges (DEIS 4-469) and thousands more acres will have edge-impacts within 700 feet of clearcuts. Considering road and noise impacts, 6,841 acres of suitable nesting habitat is impacted, which will effect murrelet behavior, including breeding activities (DEIS 4-1031). Uncleared Storage Areas, 100' wide on either side of the clearcut edge will also degrade murrelet habitat, though the DEIS neglected to consider this impact or disclose acres for UCSAs in murrelet habitat.

The right-of-way corridor, plus the Temporary Extra Work Areas (TEWA) to be clearcut, will essentially cause all the murrelets in nearby stands to be unsuccessful in nesting, and allow predators unprecedented access to what was murrelet-secure interior forest habitat.

Marbled murrelet nests are notoriously difficult to locate because of their cryptic nesting behavior and the fact that nests occur high up in trees in the Coast Range and are often in rugged terrain . Therefore, when the pipeline clearcuts near occupied stands, it is impossible to tell if the actual nest tree is being cut down.

Marbled murrelet populations have declined over much of their range, mostly due to current and historic loss and fragmentation of older-aged forest breeding habitat . Primarily because of logging, populations have been plummeting by 3.7% per year . The primary reason for declines continues to be sustained low recruitment from the loss of quality nesting sites and increases in predation in nesting habitat . Habitat loss is not mostly due to forest fires, as claimed in the DEIS.

Murrelets and edges: The Pacific Connector Pipeline right-of-way would create miles of new edge habitat. Marbled murrelets currently have low fecundity levels in Oregon caused mostly by nest predation because of edges caused by forest fragmentation . Using the correct distance for edge effect analysis is especially important for murrelets because the vast majority of murrelet nest failure is due to predation from corvids who otherwise cannot penetrate interior forest habitat.

The DEIS failed to fully consider the impacts of forest edges on murrelets. For instance, figure 4.1-6 (page 4-157) shows only occupied murrelet stands that intersect the pipeline right-of-way. It fails to show murrelet stands that are adjacent to the pipeline right-of-way that will be impacted by the new edge it creates. Since the DEIS determined the edge effects extend 100 meters into the forest, all occupied stands within that distance should have been displayed in figure 4.1-6 and impacts considered in the DEIS.

The DEIS is only considering 300' for edge impacts to murrelets, 28' less than 100 meters. However, Murrelet habitat within 700 feet of the pipeline could be impacted by edge effects, and should have been considered and mitigated for, not just the 300 feet the DEIS considers. Studies have demonstrated microclimate effects of clearcut edges to >780 feet [237 m] into the forest interior. The DEIS also failed to consider the impacts of the Uncleared Storage Areas running for

CO34-125

CO34-126

CO34-127

CO34 Continued, page 75 of 138

CO34-125 Comment noted.

CO34-126 Comment noted.

CO34-127 Indirect effects to marbled murrelet are discussed in section 4.7.1.2 of the DEIS, with further detail provided in our Biological Assessment, available on the FERC website. The impact assessment including edge effects was developed in coordination with FWS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

100' on either side of the clearcut, which requires that the edge impacts be pushed out another 100'. UCSAs will impact ground vegetation and understory trees, opening up the canopy and degrading near-by interior forests.

When the pipeline clearcuts through younger stands (less than 80 years old), the DEIS only considers 30 meters (90 feet) for the edge effect. Using only 90 feet for edge impacts is inadequate and was never justified in the DEIS.

The DEIS itself says (4-160) impacts from edges in forests under 80 years old "extends out approximately two times the average tree height." 90 feet is not half the average tree height of a 50-year-old tree (the age of most managed plantations on Federal land). A 50-year-old Douglas fir tree in a managed tree plantation could be closer to 75' tall, not 45'. Thus, if the DEIS is considering impacts two-tree heights, it should be 150' distance, not 90 feet. For a 70-year-old forest, it should be even larger. Thus, the DEIS significantly underestimated the edge impacts from the Pacific Connector pipeline.

Windthrow especially can result from the clearcutting areas on ridges exposed to high winds, exactly where the pipeline is located in the coast range. Studies found that sites at clearcut edges had less moss than interior murrelet nest sites and natural edge sites (stream corridors) due to stronger winds, higher temperatures, and lower moisture retention when compared with interior sites. Maintaining microclimate is critical to maintaining moisture in murrelet habitat to help moss development and aid in proper thermoregulation of marbled murrelet adults and chicks.

The worst forest-type combination for murrelets is suitable murrelet habitat adjacent to clearcuts and regenerating forests with berry producing plants, which is optimal habitat for predators. This is exactly what the Pacific Connector Pipeline does, clearcuts next to suitable habitat (unoccupied or occupied) with plans to plant berry producing plants in the outer parts of the clearcut. This attracts known predators at active murrelet nests, such as Common Ravens (*Corvus corax*), Steller's Jays (*Cyanocitta stelleri*), and American Crows (*Corvus brachyrhynchos*).

The DEIS also failed to consider the impacts of off-road recreation in the right-of-way as an additional threat to owls and murrelets. Pipeline right-of-ways in Oregon attract abundant off-road recreation. This human activity has the potential to increase impacts to murrelets by leaving food trash, attracting more corvids. Sound from Off Highway Vehicles (OHVs) on the right-of-way will also impact nest initiation and nest success. The DEIS failed to consider these impacts, as required by NEPA.

The proposed action would also jeopardize the continued existence of the Marbled murrelet and critical habitat supporting this species. The DEIS for the proposed action admits that the Project is likely to adversely affect Marbled murrelets because proposed actions that generate noise above ambient levels might disturb or disrupt Marbled murrelets and interfere with essential nesting behaviors at 79 Marbled murrelet stands within 0.25 mile of the pipeline that could be constructed during the breeding season and 161 Marbled murrelet stands within 0.25 mile of access roads that could be used during the breeding season. DEIS at 4-637. In addition, blasting for the pipeline trench may occur within 0.25 of Marbled murrelet stands between April 1 and

CO34-127
continued

CO34-128

CO34 Continued, page 76 of 138

CO34-128 The primary impacts to marbled murrelets and spotted owls are discussed in section 4.7.1.2. Additional details, including potential impacts from increased recreation such as off-road vehicle use, are discussed in our BA, available on the FERC website.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

September 30. Helicopter use for removal of timber during pipeline construction within 0.25 mile of 9 Marbled murrelet stands during breeding season and potentially disturb adults and nestlings or even blow nestlings out of nest trees within 7 Marbled murrelet stands due to rotor wash. The pipeline will remove and modify potential suitable nesting habitat and recruitment habitat, including clearing approximately 40 acres of Marbled murrelet habitat in 12 stands on BLM lands in the Coos Bay District and 5 acres in 2 stands in the Roseburg District. DEIS at 4-638. LNG vessel traffic will cause potential effects to foraging Marbled murrelet. DEIS at 4-637.

The DEIS also acknowledges that a likely to adversely affect determination is warranted for Marbled murrelet critical habitat because the project may remove or damage trees with potential nesting platforms, or the nest platforms, decreasing the value of the trees for future nesting use as well as damage to trees adjacent to nesting platforms that provide habitat elements essential to the suitability of the potential nest tree or platform. DEIS at 4-637.

2. Northern Spotted Owl (*Strix occidentalis caurina*).

The pipeline route would cross through 90 northern spotted owl (NSO) home ranges and eight nest patches. It would impact fifty-seven activity sites occurring in federally designated Critical Habitat Units (CHUs). Project construction would remove a total of about 565 acres of Nesting Roosting and Foraging (NRF) habitat for NSO, including high-quality NRF habitat. (DEIS 4-638 and 1031). The pipeline also plows right through three Known Owl Activity Centers (KOAC) nest sites.

Known Owl Activity Centers (KOACs) are highly protected forests on BLM land. Pacific Connector is asking for a change in Resource Management Plans to allow some KOACs be clearcut. The DEIS describes why, for each of these sites, the pipeline could not be rerouted around the KOAC.

However, there are reasonable route alternatives around the KOACs the DEIS failed to consider. For instance, for KOAC P2294 (MP86), the DEIS says the pipeline must stay on the ridgeline where the KOAC is located, to "ensure pipeline safety and integrity and minimize disturbance by reducing grading requirements." The DEIS failed to discuss the best alternative to protect this KOAC, that is, move the pipeline to the original 2007 route, where it stays almost a mile away from KOAC P2294.

The DEIS compares the pros-cons of this alternative on page 3-42, Table 4.2.7-1. But in the comparison between the Proposed Route and the 2007 Route, there is no mention that the Proposed Alternative goes through KOAC P2294 and the 2007 Route stays far away from it. That is a significant omission that should have been included to inform the decision of which alternative to choose. Environmentally, the 2007 Route Alternative is preferable. The landowner also considers the 2007 route the least objectionable. Without these two pieces of information, FERC cannot make an informed decision about this alternative at MP 85-86 and the fate of KOAC P2294.

Appendix H, page 73, also misses this information when describing the "Minimization Efforts" done to avoid KOACs. For KOAC P2294, it never mentioned the 2007 alternative that was

CO34 Continued, page 77 of 138

CO34-129 The DEIS includes a comparison of the May 2009 route and the currently proposed route in section 3.4.2.6. The May 2009 route was chosen over the 2007 route based on information presented in an earlier EIS. As discussed in section 1.1.1, portions of that analysis are valid and can be used in the current analysis.

CO34-129

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

originally proposed, that the landowner finds it least objectionable, and that it completely avoids LSOG habitat and the KOAC. This omission must be corrected. FERC should also consider that the Northwest Forest Plan requires that for rights-of-ways, "alternate routes that avoid late-successional habitat should be considered." (C-19)

CO34-129
continued

The DEIS is also inaccurate on page 2-53, when it claims "No fuels reduction or thinning projects are currently proposed in... the vicinity of the KOAC at MP 86..." Other sections of the DEIS contradict this statement numerous times. Thinning IS proposed in the KOAC at MP 86. Figure 6-2 in Appendix F, "Mitigation Actions on the BLM Roseburg District" shows MP 86 has a fuels reduction project. Figure 2.2-27 in Appendix H also shows "Fuel Treatment" at MP 86. Figure 4 in the April 2014 Proposed Compensatory Mitigation Projects shows mitigation site #79 "Fuel_Treatment_Buffer2", right at MP 86, and inside the KOAC. The Fuel Treatment consists of commercial timber sales on 982 acres in the Days Creek-South Umpqua watershed. It will cost \$1,175,463.00 dollars for this so-called mitigation, including logging inside of a KOAC.

CO34-130

The proposed action would jeopardize the continued existence of the Northern Spotted Owl and critical habitat supporting this species. The pipeline route would cross through 90 Northern Spotted Owl home ranges and 8 nest patches. The DEIS admits that the project is likely to adversely affect Northern Spotted Owl. DEIS at 4-639. Noise from blasting and helicopter use during pipeline construction within 0.25 mile of Northern Spotted Owl sites during late breeding season could increase the risk of predation to fledglings. Construction would remove high nesting, roosting or foraging habitat within the range of the Northern Spotted Owl, including in areas that are currently below thresholds needed to sustain owl populations. This habitat reduction and degradation increases the likelihood of displacement from nesting areas, concentration of populations, increased inter- and intra- specific competition for nest sites, decreased survival due to increased predation and or limited resource availability, and diminished reproductive success for nesting pairs. The project construction would modify key habitat features throughout the project area and including 56 home ranges currently below sustainable threshold levels of suitable habitat for continued persistence in the home range or core area. The project would bring two Northern Spotted Owl core areas below the 50 percent nesting, feeding or roosting habitat threshold. DEIS at 4-640. These are not even the most current numbers, as another nest site was identified in June 2014 and has not been incorporated in the analysis included in the DEIS. DEIS at 4-640.

CO34-131

The project would occur within designated critical habitat for the Northern Spotted Owl and would result in habitat impacts within those areas. The DEIS admits that a likely to adversely affect determination is warranted for Northern Spotted Owl critical habitat. DEIS at 4-640.

3. Mitigation of Impacts to Marbled Murrelets and Northern Spotted Owls Is Insufficient.

In order to compensate for significant adverse impacts to federal public land resources, the DEIS proposes a series of planned mitigation measures on and off federal lands. DEIS, 2-55 – 2-71. Some "mitigation" includes planned timber harvest, road reconstruction, fire suppression activities, thinning, land acquisition and reallocation, hazardous fuels reduction, and other

CO34-132

CO34 Continued, page 78 of 138

CO34-130 The FEIS text has been corrected.

CO34-131 Federally listed species are managed by the USFWS. Surveys and avoidance, minimization and mitigation requirements will be identified in the BO prepared by the USFWS following the release of the FEIS.

CO34-132 Proposed mitigation measures are described in section 2.1.4 at the programmatic level. The mitigation projects would undergo separate NEPA analysis prior to implementation. As stated in section 2.1.4, these measures are likely to change once field surveys are complete; therefore, it is too early to make a decision on these measures. The cumulative effects of these projects, the proposed Project and other foreseeable activities are analyzed in section 4.14.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 79 of 138

measures. *Id.* The DEIS states that this “mitigation” is required to account for adverse effects from forest plan amendments that permit the violation of forest plan requirements.

Notably, however, the DEIS does not analyze the environmental consequences of undertaking this “mitigation.”²⁰ If the mitigation is required as part of FERC’s (or the land management agencies’) authorization of the proposed project, then the DEIS is required to assess the environmental consequences of those actions. 40 C.F.R. §§ 1508.25, 1508.25(a)(1) (connected actions); *Robertson v. Methow Valley*, 490 U.S. at 352 (“mitigation [must] be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated”); *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1381 (9th Cir. 1998) (“mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA”) (setting aside EIS in part on grounds that the USFS’s mitigation analysis contained only “broad generalizations and vague references”); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998) (“Without analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a ‘mere listing’ of good management practices”). If the mitigation is *not* required, then the adverse effects of violating several Forest Service and BLM forest plans are not accounted for in the DEIS, in violation of NEPA. *Southwest Ctr. for Biological Div. v. Bartel*, 470 F. Supp. 2d 1118 (S.D. Cal. 2006); *Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987); *Sierra Club v. Babbitt*, 15 F.Supp.2d 1274, 1282 (S.D. Ala. 1998); *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 935-36 (9th Cir. 2008).

Moreover, it appears impossible that FERC can guarantee that the proposed mitigation occurs. While the DEIS seems to suggest that Jordan Cove will provide funding to the land management agencies to support the suite of mitigation, there is no estimation of the cost of such mitigation, or guarantee that it will occur. For example, presumably all mitigation projects will require additional NEPA analysis and public involvement, which by definition may – and in fact *should* – result in change to the action. Those changes may not fully compensate for the adverse effects from the Jordan Cove pipeline that required an obviation of forest plan requirements. Furthermore, there is no guarantee that the mitigation projects will survive legal scrutiny, which would result in an unmitigated effect stemming from the implementation of the Jordan Cove pipeline project.

Given that FERC and the applicant cannot guarantee that any of the mitigation proposed to compensate for the violation of forest plan requirements, the DEIS conclusion that amending the various forest plans is arbitrary and capricious. 5 U.S.C. § 706(2)(A).

a. *Marbled Murrelet and Northern Spotted Owl mitigation.*

The DEIS mitigation offers no new habitat for murrelets, only existing habitat with tiny regulation changes. The Pacific Connector Pipeline contributes to the decline of the murrelet in Zone 1, the best murrelet habitat. The mitigation offered is mostly in Zone 2, less useful habitat

²⁰ Commentors dispute that any of the planned activities are in fact “mitigation,” but rather consist of the ordinary program of work that the Forest Service and BLM undertake on an annual basis. There is no evidence that these activities in any way account for sanctioning what would otherwise be a violation of law.

CO34-132
continued

CO34-133

CO34-133 The mitigation offered for impacts to occupied marbled murrelet sites (unmapped LSR) is primarily in Zone 1 not Zone 2. The proposed reallocation of 450 acres of matrix to LSR on the Coos Bay District Is all within Zone 1 and in the proximity of the occupied sites that would be impacted on both the Coos Bay and Roseburg Districts. The reallocation of matrix to LSR in Zone 2 is in addition to the reallocation in Zone 1. This is discussed in the DEIS on pages 4-164 to 169, 4-178 to 179, 4-235 to 238 and in section 2.4.4 of Appendix H. The proposed mitigation actions by the BLM including the rationale for the actions is described in section 2.1.4 and Appendix F of the DEIS. Reallocation of matrix lands to LSR adds a reserve allocation (LSR) to existing habitat, resulting in a net increase in murrelet habitat acres in reserve status. The BLM has not proposed any fuels reduction or forest thinning mitigation actions in the Oregon Coast Range Province. Mitigation actions such as heliponds to reduce the risk of stand replacement fire is consistent with the LSRA recommendations for this portion of LSR 261. The BLM is currently proposing to place heliponds on private timber company lands with the cooperation of the timber companies. This is in mutual interest since the ponds would benefit all land owners in the area. Mitigation of this type is allowed under BLM mitigation policies. No one has proposed the use of hydro-test discharge water to fill the ponds. Additional discussion has been added in the FEIS. Acquiring private land for mitigation for impacts to threatened or endangered species is more appropriately accomplished through formal consultation between the Applicant, FERC and the USFWS. The BA submitted to USFWS for the PCGP project includes the applicant acquiring private lands for conservation easements as mitigation for impacts to listed species. BLM would not make any decision on its proposed actions until the consultation process with USFWS were complete.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

further from the ocean. For instance, the mitigation to convert matrix lands to LSR uses matrix in Zone 2 to make up for degrading LSRs in Zone 1.

Mitigation to put heli-ponds, and other fire-suppression tools, near murrelet habitat in the Coast Range is not sufficient mitigation because it is logging, not fire, that is the main threat to murrelets in the Coast Range. The DEIS never documented any significant loss of murrelet habitat due to wildland fire. Moreover, the heli-ponds are being put on private lands, where the BLM has no authority to design them, monitor them, or guarantee their usefulness over the years.

Mitigation on private land, for impacts on BLM land, is not allowed.

Using heli-ponds as mitigation is further compromised by its use as a place to discharge potentially toxic water. At least one heli-pond (at MP 28.3) is in the exact same place as a hydrostatic water discharge site, enabling Pacific Connector to take a liability, toxic water discharge, and turn it into mitigation for harming marbled murrelets.

Other mitigation offered, fuels reduction, even thinning forests along the pipeline route, make matters worse for the murrelet, further opening up closed canopy forests near the interior habitat the murrelet needs. Opening up the canopy allows increased access to predators, especially jays and ravens. The DEIS offered no sound scientific justification for this so-called mitigation in the Coast Range, a moist forest that is not suffering from fire-suppression.

A better mitigation for murrelets would be to buy up private land in the BLM checkerboard of Zone 1, where private land borders productive murrelet habitat. This would allow the murrelet to recover in the future without the threat of future forest fragmentation. The decision should explain why this more useful mitigation was never considered in any alternative.

Mitigation for spotted owls and murrelets includes converting some matrix lands to LSRs. This is insufficient mitigation for a number of reasons. For example, occupied murrelet and owl sites in the matrix are automatically converted to an LSR anyway, so there is no extra benefit to endangered birds for this being done as mitigation. The DEIS claims (page 49) that turning the already occupied murrelet (MAMU) habitat into an LSR, instead of an "unmapped LSR", will "provide additional protections and benefits for MAMU habitat". But these so-called "additional protections" are not enumerated. LSRs and unmapped LSRs are governed by the same standards and guidelines.

The DEIS claims the managed plantations near the unmapped LSRs would be able to mature into MAMU habitat in the future if it became a block LSR. However, managed plantations are never clearcut anyway.

The DEIS claims that the Coos Bay BLM LSR 261 (where much of the murrelet habitat is impacted by this project) is "highly fragmented", and converting matrix to LSR "would consolidate habitat". Similar claims are made for spotted owls matrix conversion. We disagree. The BLM land remains a checkerboard after any land management conversion. Land management conversions do not block up any BLM land, so it is unclear what the DEIS meant by "consolidate habitat".

CO34-133
continued

CO34-134

CO34 Continued, page 80 of 138

CO34-134 Only known owl activity centers (KOAC) in the matrix discovered before January 1, 1994 are managed under the standards and guidelines for LSR. Essentially, these KOACs are static and don't change over time. Occupied marbled murrelet sites in the matrix are protected under the same standards and guidelines but only for the contiguous existing and recruitment (within 25 years) habitat within a 0.5 mile radius identified by BLM once occupation has been documented. The proposed matrix to LSR reallocations acres listed in the amendments does not include the acres that are already being managed as LSR as occupied marbled murrelet sites or KOACs. For example on the Coos Bay District there is a total of 998 acres that would be reallocated to mapped LSR 261 of which 387 acres are currently being managed as matrix and the amendment credits only 387 acres since the remaining 611 acres are occupied marbled murrelet sites being managed under the LSR guidelines. However, islands of occupied marbled murrelet habitat provide for limited interior forest habitat. The benefits to LSR include all 998 acres would now be managed as part of a mapped LSR as a contiguous block and the areas that are presently being managed as matrix (387 acres) would be managed for the creation and maintenance of late-successional habitat. Although plantations in the matrix may not be "clearcut" in the traditional sense, the objectives for timber management in these areas (including regeneration harvest) would not produce suitable habitat for marbled murrelets. Although this area of the Coos Bay District is in a checkerboard ownership the LSR assessment for this area recognized it played an important link in the LSR system by providing some connectivity between the more contiguous areas of habitat in LSR to the north and south. One of the recommendations in the LSR assessment for this area was to increase the stand size of contiguous habitat (see DEIS pages 4-166 to 174 and section 2.2.1.1 of appendix H).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS implies that owl and murrelet occupied habitat in the matrix would become LSR. This is also wrong. Occupied habitat in the Matrix is considered an LSR as soon as it is determined to be occupied. This mitigation gives us no additional protected lands.

CO34-134
continued

If the matrix land slated to be converted to LSR contains unoccupied owl and murrelet nesting habitat, the BLM couldn't log it anyway because the Spotted Owl Recovery Plan (RA 32) requires that this habitat cannot be degraded. So habitat on matrix lands (and unmapped LSRs) being converted to LSR is no mitigation for clearcutting habitat.

Proposed mitigation that converts matrix to LSR in young forests, especially managed plantations, is also no help to the murrelets and owls because the endangered birds need the quality of habitat being clearcut, not future habitat they cannot use until after they go extinct.

b. Late-Successional Reserve Mitigation.

Another problem with the Roseburg BLM matrix lands slated to be converted to LSR: While it appears these lands are on the edge of an LSR, Oregon Senator Ron Wyden has introduced, and is shepherding through congress, legislation which will convert this LSR into a timber emphasis area. Once passed, the tiny slivers of matrix land slated for conversion to LSR will be isolated patches that provide virtually no interior forests at all for wildlife.

In the Coos Bay BLM, near MP 34-36 of the pipeline, mitigation has been offered to change matrix lands to LSR. However, the pipeline then goes right through the new LSR, so the mitigation itself has to be mitigated. This is not adequate mitigation.

CO34-135

Only 409 acres (DEIS 2-42) is proposed to be transferred from Matrix to LSR on Roseburg District BLM, less than one section. And only a little over half of that is Late Successional Habitat. Less than one section is little help to murrelets and spotted owls being impacted on BLM land.

The DEIS says (1-15): "Pacific Connector would be required to acquire timber producing lands to replace those BLM Matrix lands proposed for reallocation to LSR by the BLM." The DEIS doesn't specify where the acquired lands would have to be located or what condition they have to be in. Depending on those factors, this could either be part of the mitigation, or it could be a public liability. Most of the private timberlands in the area of the pipeline have been repeatedly clearcut, sprayed with herbicides, and have far too many logging roads, some of which will soon fail into streams that support fish. If these lands are acquired to replace the matrix lands converted to LSR, would it be public funds, not Pacific Connector mitigation funds, that would be required to restore ecosystems on the acquired lands?

c. Other mitigation.

Fire suppression should not be used as mitigation. Tools for fire suppression are the most common mitigation offered in the DEIS for the pipeline's impacts to spotted owls and marbled

CO34-136

CO34 Continued, page 81 of 138

CO34-135 Future actions of Congress are speculative and not suitable for analysis as reasonably foreseeable actions. The impacts to LSR on the Coos Bay District from the PCGP project include the impacts that would occur to the area that would be reallocated to LSR (see DEIS pages 4-166 to 174). The requirement of acquisition of private lands to replace matrix lands reallocated to LSR calls for "comparable" lands. Assessments would have to be made once the lands are identified to determine any restoration needs.

CO34-136 A major threat to LSRs in southern Oregon as identified in LSR assessments and the 15-year monitoring reports for the NWFP is the risk of stand-replacing fire. The LSR assessments include recommendations for reducing this threat. The rationale for the mitigation actions including hazardous fuels reduction and construction of heli-ponds is described in Table 2.1.4-1 and Appendix F of the DEIS (see also pages 2-51 through 2-54 for further discussion on these proposed mitigation actions). The objection to the use of these mitigation actions is noted.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

murrelets. This includes fuel reduction projects, commercial timber sales that thin forests, and heli-ponds.

Pacific Connector would fund various projects on federal lands that would improve forest structure and health, and reduce the effects of wildfires. This would include 6,563 acres of stand density, 1,152 acres of thinning, 620 acres of planting, and 2,105 acres of fuel deduction. (DEIS ES-8)

The DEIS erroneously considers fire-suppression to have caused a problem in the stand structure of moist forests in the Coast Range. Scientists have refuted this. Moist forests in the western half of the proposed pipeline do not suffer the effects of fire-suppression because the natural fire-return interval is hundreds of years. Any DEIS reference to problems caused by fire suppression in the first 70 miles of the pipeline must be corrected.

Even in dry forests, the basic concept in the DEIS that fire-suppression is necessary to protect wildlife from wildland fire is flawed. The DEIS claims (2-52): "Monitoring of the NWFP for the past 15 years has shown that the largest single factor contributing to the loss of LSOG forests (and hence NSO habitat) has been high-intensity stand replacement fire (Moeur et al. 2011)." Other studies disagree and come to a different conclusion. The DEIS failed to consider these other relevant studies.

For instance, FERC must consider the Baker Study.²¹ Instead of claiming that fire harms spotted owl habitat, the Baker study finds the opposite. It uses records in dry forests where northern spotted owls are known to exist to demonstrate they were historically mixed-severity-fire-adapted. Such fires actually maintained habitat for owls. They did not degrade habitat.

This is significant in terms of whether thinning to push these forests into lower fuel loads, as proposed in the DEIS, can be justified as ecologically restorative. The Baker study concludes: Mixed- and high-severity fires strongly shaped historical dry forests and produced important components of historical NSO habitat. Focus on short-term loss of nest sites and territories to these fires is mis-directed. Fuel treatments to reduce these natural fires, if successful, would reduce future habitat of the NSO in dry forests.

The Odion study²² also shows that most fire systems in western North America were mixed severity systems and that thinning can be a bigger risk than the presumed fire risks to the northern spotted owl. If anything, we currently have a fire deficit in much of Oregon. The Odion study found that:

... the future amount of spotted owl habitat that may be maintained with these rates of high-severity fire and ongoing forest regrowth rates with and without commercial thinning. Over 40 years, habitat loss would be far greater than with no thinning because,

²¹ William L. Baker, *Historical Northern Spotted Owl Habitat and old-growth dry forests maintained by mixed-severity wildfires* (December 2014). Published in *Landscape Ecology*, December 2014. (Baker, 2014)

²² Dennis C. Odion, et al., *Effects of Fire and Commercial Thinning on Future Habitat of the Northern Spotted Owl* (2014). Published in *The Open Ecology Journal*, 2014. (Odion, 2014).

CO34 Continued, page 82 of 138

CO34-137 The term "Coast Range" in this portion of the DEIS is referring to the "Coast Range Province" of the NWFP (see DEIS Figure 4.1-42). The DEIS recognizes there is a wide range of "mean fire-return intervals" among the fifth-field watersheds crossed by the proposed PCGP in this province ranging from up to 200 years in the North Fork Coquille watershed to as frequent as 60-70 years in the Middlefork Coquille watershed at east end of the province. The proposed heli-ponds are on the east end of the province in an area where the proposed pipeline would be on a ridge prone to frequent lightning strikes. The purpose of the proposed mitigation is not to protect wildlife from wildland fire but to reduce the risk of loss of LSOG habitat to high intensity wildfire (see DEIS section 2.1.4 and Table 4.5.1.2-9).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

under a “best case” scenario, thinning reduced 3.4 and 6.0 times more dense, late-successional forest than it prevented from burning in high-severity fire in the Klamath and dry Cascades, respectively. Even if rates of fire increase substantially, the requirement that the long-term benefits of commercial thinning clearly outweigh adverse impacts is not attainable with commercial thinning in spotted owl habitat. It is also becoming increasingly recognized that exclusion of high-severity fire may not benefit spotted owls in areas where owls evolved with reoccurring fires in the landscape.

Therefore, the DEIS assumption that wildland fire is bad for owls is flawed, which has produced flawed mitigation proposals in the DEIS demanding further evaluation.

Thinning can increase fire risks by drying out the forest with increased sunlight and logging slash. However, the DEIS claims: “Stand density reductions in riparian zones have the dual benefit of reducing the risk of stand replacing fire, while also accelerating the development of late successional stand conditions by accelerating growth of remaining trees.” Riparian zones are especially sensitive to logging and are some of the areas least threatened with fire. Additionally, it does no good to accelerate the development of late successional stand condition by thinning in late successional stands.

Thinning and fuel breaks should not be used as mitigation. The DEIS claims (2-53) that, concerning commercial timber sales, “removal of commercial-sized material is necessary” to create fuel breaks to help with fire suppression, to save the owls not killed by the pipeline from a future wildfire, including 6,000 acres of integrated fuels reduction along the Pacific Connector corridor near Milo, Trail, the South Umpqua River and the Rogue River.

The thinning and fuel reduction is also ineffective on BLM lands for the alleged purpose of suppressing future wildland fires because it is in such short segments. The BLM land is checkerboarded, so the thinning occurs in lines under one-mile long, with sometimes dozens of miles of the pipeline route between the short thinning segments. This is the case with the 6,000 acres of proposed fuels reduction near Milo, Trail, the South Umpqua River and the Rogue River – it is broken up into little segments. The DEIS fails to conclude that a wildland fire will only happen on Federal land and that the fuel reduction will be fresh enough that it can actually reduce the fire spread.

Fuel breaks are also ineffective because the landscape is “fuel rich” and the fuel breaks are relatively narrow. Wind driven embers can easily jump the pipeline clearance.

Any fuel break that is over a few years old will be thick with small trees and brush, increasing the fire hazard. The DEIS offers no plan to maintain these impractical firebreaks over time rendering them even more useless as a mitigation measure.

The PCGP plans to replant the outer half of the right-of-way with trees. This replanting will occur between the fuel break and the permanently cleared right-of-way. Therefore, in just a few years, the fuel-break will not be directly connected to the cleared right-of-way, making it less effective. Mitigation projects should provide benefits beyond just a few short years.

CO34 Continued, page 83 of 138

CO34-138 The BLM and Forest Service have not proposed thinning old-growth forest as mitigation for the PCGP project. The integrated stand density treatments are designed to reduce the risk of a high-intensity stand replacement fire. The area of LSR where this treatment is proposed is along a ridge prone to frequent lightning strikes. The treatments are focused on thinning from below, reducing ladder fuels, and any generated slash would also be treated. The proposed treatments occur on both BLM and USFS lands and are consistent with recommendations in the Late-Successional Reserve Assessments for LSR 261 and 223. Additional discussion has been added in the FEIS to further clarify these proposed treatments.

CO34-138

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Studies²³ have found fuel breaks ineffective:

...fuel break performance and benefit is based on the questionable expectation that fire suppression will be capable of "stopping" fires after initial attack fails... Utilizing fuel breaks involves a large burnout operation, which may be of a size equal to the original wildfire, take place regardless of the fire behavior at its current location, and produce negative effects on wildland vegetation greater than the original wildfire. Maintenance costs of fuel breaks are often ignored by proponents but maintenance is a perpetual burden that is likely to divert efforts from managing fuels and vegetation on the remaining majority of the landscape.

The commercial aspect of the mitigation is also problematic. Mitigation projects that are commercial, i.e., makes money and pays for itself with timber sales, is not helpful mitigation. Mitigation should be for projects that would otherwise not get done due to financial constraints. The DEIS published the million dollar cost to Pacific Connector for this mitigation, but failed to account for the timber sale receipts received from selling the logs.

Using commercial logging as mitigation allows Pacific Connector and BLM to extract far more trees from an LSR than otherwise would be allowed.

4. Grey Wolf.

The DEIS lists impacts to the Grey Wolf on page 4-629, and includes noise and increased human presence. However, the DEIS failed to include the threat of being shot and killed because of increased human presence.

The DEIS describes the benefits to wolves from the "restored and revegetated pipeline corridor," which will increase habitat diversity and forage used by ungulates such as deer, which are prey for gray wolves. If the wolf were to take advantage of this, as the DEIS claims, and follows ungulates down the pipeline right-of-way, the wolf will be led away from safer forest habitat directly into the ranches and farms in the valleys. The DEIS failed to consider the impact to livestock, and the increased chances of the wolf being shot.

The DEIS determined the impacts to the wolf to be "not likely to adversely affect." Because of these additional threats, the assessment should be changed to LAA.

Grey wolves are protected under the federal ESA in Oregon west of the Cascade Mountains. The "Rogue Pack" (OR-7 pack) currently occupies areas of the Rogue River-Siskiyou National Forest in Douglas and Klamath counties. The DEIS acknowledges that the pipeline route would cross the area where OR-7 has become established. The DEIS also acknowledges that the territory size of a wolf pack can range up to 1,500 square miles and that individual wolves are known to disperse from packs sometimes more than 600 miles from a home range. DEIS at 4-629. The DEIS states that the pipeline would be located six miles from the OR-7 den location,

²³ Mark Finney and Jack Cohen, *Expectation and Evaluation of Fuel Management Objectives* (2003). 364 USDA Forest Service Proceedings RMRS-P-29. 2003. (Finney & Cohen, 2003)

CO34 Continued, page 84 of 138

- CO34-139 The purpose of the proposed mitigation is to reduce the risk of stand-replacing fires and to enhance the development of LSRs. Projects proposed to meet these objectives could result in commercial size trees being removed. This removal of commercial size trees would be incidental to achieving these objectives. This is discussed in the DEIS on pages 2-51 through 2-54. Pacific Connector would not perform the compensatory mitigation actions and would not receive any receipts from this work. All of the proposed actions would have costs that the agencies do not otherwise have funding for. The BLM and FS would plan these activities consistent with the standards in the NWFP and the recommendations in the LSR and watershed assessments.
- CO34-140 As the DEIS states, wolves are protected by both federal and state laws and thus are not expected to be shot as a result of the Project. We are not aware of any evidence that the installation of the pipeline would cause a measurable increase in livestock predation by wolves.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

but nevertheless concludes that its construction, clearcutting, and permanent right of way will not adversely affect the species. This analysis fails to acknowledge the impact of road development and clearing on grey wolf habitat suitability, the increase in accessibility that the pipeline route and maintenance roads could have, increasing possible human-caused mortality or harassment of wolves. Human activity tends to create an avoidance response, which can interfere with necessary activities such as hunting and breeding. In addition, increased human presence also increases the risk of exposure to new diseases and parasites to wolf populations, such as heartworm, Parvo, and Lyme disease. Although the DEIS dismisses potential impacts to grey wolves resulting from the project, the FERC must engage in formal consultation regarding this species to ensure its recovery and survival under the ESA.

5. Pacific Fisher.

Fishers are forest-dwelling mammals related to weasels, mink, martens, and otters. During the 1800s and early 1900s, hunting and habitat alteration dramatically reduced fisher populations in the West. The U.S. Fish and Wildlife Service is proposing to list the West Coast distinct population segment of fisher as threatened under the ESA. The fisher's historic range includes the area proposed for the pipeline, yet the DEIS and application dismiss potential impacts to this species. The FERC should require that impacts to the fisher be analyzed as part of the formal consultation under the ESA. If consultation reveals jeopardy to the species as a result of project activities, the FERC cannot approve the permit.

CO34-141

6. Salmonids

As we explain above, construction of the pipeline (including clearing the right of way and constructing stream crossings), as well as construction and use of associated roads, will have numerous severe environmental impacts. In this section, we summarize the effect of these impacts on aquatic habitat in particular. Activities that create or incite impacts on aquatic resources, and salmonid viability in particular, include but are not limited to:

- Permanent loss of vegetative shading at corridors for pipeline stream crossings construction and operation
- Permanent loss of base flows from pipeline
- Stream width increases from sedimentation related to pipeline construction and operation
- Soil, vegetation, bank destabilization and increased sedimentation from pipeline construction and implementation
- Permanent degradation of riparian areas in pipeline corridors at stream crossings
- Permanent loss of Large Wooded Debris areas from degradation of riparian areas and increased sediment transport in stream and river channels
- Deforestation in pipeline corridors combined with wetlands damage and long-term soil compaction and new road creation and use, plus decreases in hydrologic connectivity due to all of the above
- Increased, prolonged sedimentation of waterways

These Project impacts affect the following elements or processes, many of which are critical "pathway indicators" used in NMFS' framework for assessing impacts on ESA-listed salmonids:

CO34 Continued, page 85 of 138

CO34-141 Fishers are discussed in section 4.7.1.1 of the DEIS. Impacts to the fisher were also analyzed in our BA, submitted to the FWS and posted on the FERC web site in February 2015.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

- Water temperature: will increase and degrade already degraded conditions
- Turbidity & suspended sediment: will increase and degrade already degraded conditions
- Substrate: quality and quantity will be degraded and lost
- Presence of Large Woody Debris: will decrease availability and degrade already degraded conditions
- Pool frequency & quality: will be lessened and existing, minimal conditions further degraded
- Off-channel habitat: will be lessened and existing conditions further degraded
- Refugia: will be degraded beyond existing, degraded condition
- Width/depth ratio: will be degraded beyond already degraded condition
- Streambank health: will degrade beyond already degraded condition
- Floodplain connectivity: will degrade beyond already degraded condition
- Peak flows/base flows: will fluctuate causing further degradation from existing degraded conditions
- Watershed disturbance level: will rise to significant levels given intensity and duration of Project actions and activities
- Wetland hydrology & health: will degrade already degraded conditions

The FEIS must rely on the final Coho Salmon Recovery Plan as the “best available” science and must review the recovery plan for possible recovery actions relevant to mitigation for pipeline and road construction. It is available at:

http://www.nmfs.noaa.gov/pr/recovery/plans/cohosalmon_soncc.pdf

7. Oregon Spotted Frogs

Many of the waterbodies being crossed by the pipeline (e.g. Lost River) are historic habitat for Oregon spotted frogs and some frogs may continue to persist at low densities at these historic sites. The DEIS 4-652 cannot assume that because critical habitat has not been identified that Oregon spotted frogs are not present. New detections of Oregon spotted frogs is likely for Klamath County, especially on private lands. Accordingly, Pacific Connector must survey all perennial wetlands and streams east of Buck Lake into Klamath County for federally listed Oregon spotted frogs that could be affected by pipeline construction or road building.

8. Plants and Invertebrates.

a. Kincaid's Lupin.

One of the largest populations found of this plant is between MP 57.84 and 57.92 of the pipeline route. Here Pacific Connector found seven sub-populations, almost 200 plants, within a 5-acre area centered on the pipeline. Therefore, the pipeline was moved slightly to avoid a direct hit of the population. However, the 95'-wide right-of-way clearing width goes right to the very edge of some of the plants. The pipeline should have been moved further.

CO34 Continued, page 86 of 138

CO34-142 The 1,800-page final recovery plan was issued shortly before the DEIS was finalized. The DEIS used the draft plan, the final version is considered in the FEIS.N653:O653.

CO34-143 Federally listed species are managed by the USFWS. Surveys and avoidance, minimization and mitigation requirements will be identified in the BO prepared by the USFWS following the release of the FEIS. Oregon spotted frogs are discussed in section 4.7.1.4.

CO34-144 The U.S. Fish and Wildlife Service (FWS) has jurisdiction over the regulation and protection of federally listed plant species. The applicant is continuing to work with the FWS regarding impacts to listed plants as well as any compensatory mitigation measures (including minor reroutes) that the FWS may require. This consultation is occurring under both the NEPA process (via the EIS) as well as the ESA process via the FERC Biological Assessment and subsequently the FWS/NOAA Biological Opinion (BO). The BO may contain additional mitigation measures beyond what is contained in the EIS. If the Project is approved, the FERC Order would contain a condition that the applicant comply with all permit requirements, including any specified in the FWS/NOAA BO.

CO34-142

CO34-143

CO34-144

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Incredibly, Pacific Connector also decided to also put Temporary Extra Work Areas (TEWA) immediately adjacent to populations of the plant. Virtually every population adjacent to the right-of-way clearing has a TEWA on another side. This is an unnecessary impact to the plant. If Pacific Connector wanted to fully protect this rare grouping of Kincaid's Lupin, the TEWAs should have gone elsewhere. Also problematic is a hydrostatic discharge site just a few feet west of the population. Clearly, pouring thousands of gallons of potentially toxic water on the Kincaid's Lupin site will destroy it.

The population at MP 96.5-96.9 will also be impacted by TEWAs. No alternatives were offered to move what is clearly movable, TEWAs and hydrostatic discharge sites. Pacific Connector has offered to collect seeds and replant the species "if these lands are protected by a conservation easement." That's a pretty stiff requirement. Doesn't Pacific Connector know by now which lands are protected by conservation easements?

b. Vernal Pool Fairy Shrimp, Large-Flowered Meadowfoam, Cook's Lomatium

These three endangered species all use vernal pools in the Rogue River Valley in Jackson County, and will be adversely affected by the storage of pipes in, or adjacent to their designated critical habitat. Additional surveys are required to insure there are species in unsurveyed pipe-storage areas. Additionally, recent surveys are required elsewhere, as the 8-year-old surveys done in 2007 are no longer relevant.

The DEIS (4-644-622) documents that even habitat adjacent to the pipe storage area, in their designated critical habitat, could be degraded by the hydrology being impacted by soil compaction from heavy equipment and pipe storage. This could be fixed by changing where the pipes are stored, away from designated critical habitat of these rare plants. Even if all three of the species are not currently present, it is not worth degrading their potential habitat, when pipes could be stored elsewhere.

To learn more about the threats to these species, the DEIS directs the public to see the "FERC BA 2014". We've asked for that document, but have so far been denied access. After it is released, the public should be given more time for comments, as all documents referred to in the DEIS must be available for public review, during the commenting time.

c. Cox's Mariposa Lily

The mitigation plan says the pipeline will cross a documented population of *C. coxii* (up to 5,000 plants) between MP 75.05 and 75.30 on lands administered by the BLM. However, the Alignment sheet for MP 75.05 to 75.3 indicates that section of the pipeline goes through property belonging to the Gow family, not BLM. The BLM land doesn't start until around MP 75.5.

The proposal to protect the lily is to collect the bulbs and replant them after the pipeline is built. However, the DEIS failed to consider that after the pipeline is built OHV traffic will be abundant, especially on BLM land. BLM has acknowledged, and the DEIS concedes, that

CO34-144
continued

CO34-145

CO34-146

CO34 Continued, page 87 of 138

CO34-145 Potential impacts to these species from storing pipes has been disclosed in the EIS and BA. The FWS will prepare a BO in response to the project BA, which may contain additional measures/requirements that would be implemented to avoid the listed species. The FWS has jurisdiction over the protection and regulations for this species.

CO34-146 Text refereeing to this land as "BLM" has been removed.

Regarding the portion of the comment asking to have the text of the applicant's mitigation plan altered: the BLM and FERC did not prepare the mitigation plan; it was prepared by the Applicant. The federal government cannot alter the text in the applicant's proposal.

The EIS currently acknowledges the risks associated with Off-Road-Vehicle (OHV) [which is referred to as Off-Highway-Vehicle - OHV; in the EIS], and developed measures to minimize this risk (see the transportation section).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

controlling ORV use in the pipeline area will be extremely difficult, if not impossible. The DEIS does not resolve this issue, which may result in unexamined effects to the lily.

F. The Proposed Mitigation Is Inadequate

The DEIS often assumes BMP effectiveness, while science and practical experience has proven that BMPs have limits on effectiveness, particularly for streams in steeper terrain. Rather than assessing impacts resulting from the pipeline with the understanding that BMPs and mitigation will have limited effectiveness, the DEIS arbitrarily assumes impacts will be eliminated or significantly reduced. For example, construction mats will not wholly prevent or retard soil compaction, particularly in saturated and soft soils (where many pipeline related actions will occur). The DEIS does not account for the degree, extent, or persistence of inevitable compaction nor the long-term impacts it creates, such as infiltration rates, saturation capacity, runoff volume, and affected wetlands processes, including the ability to absorb, store, and slowly release water. Compaction thus has direct, indirect, and cumulative impacts such as erosion, sediment delivery, water quality, peak flows and low flows on aquatic resources and salmonids, yet these impacts – which affect salmonid survival and production – were not given a hard look.

The same flawed analyses of impacts to salmonids are present in the context of pipeline construction and operation in riparian zones. The DEIS is replete with assumptions of BMP effectiveness in eliminating runoff and sediment impacts to waterways. Conversely, best available science indicates that such BMPs do not eliminate such impacts from vegetation removal and significant soil disturbance in close proximity to waterways, on steep slopes adjacent waterways, and/or in areas with high levels of precipitation and runoff like the Pacific Northwest. The same flawed assumption of BMP effectiveness applies to the DEIS' assumption that post-construction revegetation will be effective in mitigating sediment-related impacts from pipeline construction on aquatic resources. Scientific studies have documented that post-construction revegetation is largely ineffective at reducing erosion and sedimentation.

Furthermore, the DEIS assumes – without supporting evidence – that project activities in riparian areas will “minimize” their impacts and thereby apparently sufficiently mitigate changes in water temperature, runoff, and sediment delivery. The DEIS does not explain what “minimized” impacts means, nor does the DEIS factor in any explanation of available scientific data corroborating the limited effectiveness of BMPs in preventing impacts to aquatic resources and salmonids from stormwater runoff, vegetation removal, and elevated erosion.

Thus, if the Project is approved, additional mitigation is necessary. We suggest that Pacific Connector file with the Secretary a commitment to acquire conservation easements on a substantial number of private land stream miles that are occupied critical habitat for coho salmon. These conservation easements along coho salmon spawning streams would be assigned to FWS for administration.

We dispute the implied or stated assertion that sediment effects of the proposed action can be fully mitigated on-site. Once pipeline associated sediment is delivered to stream channels it cannot be mitigated. The use of log placement to mitigate increased sediment is not a proven technique because of the transient nature of sediment and the finite ability of log placement to

CO34-146
continued

CO34-147

CO34 Continued, page 88 of 138

CO34-147 Page 4-321 of the DEIS acknowledges that BMPs may not be sufficient to entirely address soil compaction and that additional measures such as subsoil ripping and decompaction with hydraulic excavators would be employed. In addition, bulk density measurements would be taken to ensure mitigation is completed to specific standards.

The ECRP (Appendix I of the POD) identifies temporary and permanent erosion control measures and site specific mitigation measures. As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, quarterly for 2 years after construction. Any adverse issues found during the monitoring with channel stability or habitat would be remediated. Additional monitoring would occur periodically over a 10-year period with implementation of remediation as needed.

The effects to stream temperature, LWD, sedimentation have been acknowledged and the mitigation in all forms (avoidance, minimization, BMPs, and compensation) that would be implemented were presented in the DEIS and associated documents (see Section 4.6.2.3, Section 4.1.3, Appendix S – Wildlife Habitat Mitigation Plan, and Applicants Draft Compensatory Mitigation Plan). Consultation with listed species managing agencies (NMFS and USFWS) will ultimately result in determinations of whether some forms of additional mitigation is needed to protect listed species and their critical habitat.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

retain very much sediment. We believe that conservation easements on private lands would best secure coho habitat well into the future and help compensate for despoiled stream miles from pipeline construction.

A particular problem with mitigation is mitigation or avoidance of impacts on private lands. The DEIS has numerous instances and whole sections documenting a suite of protective standards for NFS and BLM lands. Much lower protective standards for private lands are explicitly stated or implied. For example, the DEIS:610 states: "A riparian strip at least 25 feet wide on private lands and 100 feet wide on federally managed lands, as measured from the edge of the waterbody, would be permanently revegetated." The best available science would clearly show that the 100 ft strip is adequate to protect and restore aquatic resources while a 25 ft strip is not. We assert that the ACS as negotiated by BLM and NFS is the best available science (see Frissell et al. 2014 which further supports 100 ft or more buffers).

The DEIS fails to discuss quantitatively the higher risk or higher expected impacts to stream miles on private lands due to lower and scientifically inadequate protection standards. The tradeoffs of reduced environmental protection on private lands versus increased costs are not made explicit as required by NEPA.

We know that FERC would not allow lesser engineering or safety standards for pipeline construction on private lands. We assert that the FERC must insist that the same protective standards for public lands be implemented on adjacent private lands. Implementation, contracting, EI monitoring, impact assessment, legality, etc. would be simplified by using the same standards for all land ownerships where practical, rather than reducing environmental standards on private lands to reduce short term construction costs while burdening everybody else with conflicting standards and inevitable stream degradation.

G. Safety issues.

The DEIS should have considered the impacts from different safety standards that are required for pipelines in rural areas. Most of southern Oregon is in a "Class 1" location because there are 10 or fewer buildings on a one-mile length of pipeline. This could put rural Oregonians in greater danger than people in urban areas.

Examples of how southern Oregon would be treated differently than urban areas include:

- Fewer welds are required to be inspected or tested, 10% verses, 100% in urban areas.
- Thinner pipes are permitted.
- No internal inspections are required on the pipeline once it is in the ground.
- Pipelines are buried 6" higher.
- Maximum distance to block valves is greater.
- Hydrostatic test pressures are weaker.

89

CO34 Continued, page 89 of 138

CO34-148 In general, the construction and mitigation measures proposed by Pacific Connector and/or recommended by FERC staff for private lands are based on normal standards for natural gas pipelines under FERC jurisdiction. These protective standards are applied to pipeline projects across the U.S., and are not lowered for the private lands affected by the Pacific Connector pipeline. Rather, the federal land management agencies whose lands are crossed by the proposed pipeline have increased the protective measures beyond the industry standards for the portions of the project that would cross federally managed lands.

CO34-149 The reliability and safety section of the EIS, including the summary of natural gas pipeline incidents and safety record and potential impact of the PCGP on southern Oregon, considered that the pipeline would be designed and constructed according to Class Locations required by USDOT regulations. This would include Class 1, Class 2, and Class 3 as shown in table 4.13.9.1-1.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

- Maximum allowable operating pressure is greater.
- Frequency of pipeline patrols and leak surveys are less often.

The DEIS says it is the U.S. Department of Transportation (DOT) that sets these standards, not FERC. Nonetheless, it is FERC's duty under NEPA to consider the impact to the human environment from these standards. The DEIS failed to do that. The DEIS does say (4-986) that FERC accepts the DOT standards and "does not impose additional safety standards." But NEPA still requires FERC to consider the impacts of those standards.

The DEIS continues: "If the Commission becomes aware of an existing or potential safety problem, there is a provision in the MOU to promptly alert the DOT." The FERC must issue this alert to the DOT and ask for higher safety standards in Class 1 areas to address the increased dangers of landslide-prone steep mountainous soils and the dangers of natural and accidental forest fires.

The DEIS tell us (4-986) that the DOT standards "are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures". However, the DOT had no way to evaluate the site-specific safety problems of southern Oregon. That evaluation should have happened in the DEIS before rural Oregonians are intentionally put in higher risk.

Thinner pipes in landslide prone areas, and increased distance to block valves in remote, rural areas, are particularly worrisome. It means we have a greater risk of an accident, and less capability to turn the gas off.

Out of the 230 miles of the proposed Pacific Connector pipeline, 212 miles are in a Class 1 location, allowing Pacific Connector significant cost savings in pipeline design. We assume these standards were set because, if an accident occurs, only a few people would be harmed or die, instead of the hundreds in an urban area. However, landowners in these Class 1 areas object to their lives being given less value than those landowners in urban areas.

Weaker standards are allowed even though there are significantly more inherent risks in Oregon's rural areas. The route through southern Oregon is over the unique geological features of the rugged Cascade and Coastal mountain ranges, including steep and unstable slopes, rocky terrain, with earthquake and high forest fire potential areas. Rural families could also dig more for utility installation and farming projects than residents in Class 4 areas.

We are also concerned about the DOT standards when we see so many pipeline accidents on the news, many built under the DOT standards. The DEIS (4-996) reviews the alarming high number of pipeline accidents, an average of 62 significant accidents per year (620 accidents per decade). The DEIS failed to say what percent of those accidents were in pipelines built under the DOT standards, but we assume all of them.

During scoping comments FERC was asked to disclose how much money Pacific Connector is saving by using the weaker regulations in rural Oregon. This important economic information was not included in the DEIS. We deserve to know what monetary value is being put on the lives of rural Oregonians.

CO34-150

CO34-151

CO34 Continued, page 90 of 138

CO34-150 Safety is addressed in section 4.13.9. See section 4.13.9.1 through 4.13.9.3 for a discussion of the risks the pipeline poses to the public. Also see the information on accidents in table 4.13.9.3-2. A person is more than 20,000 times more likely to be killed in a motor vehicle accident as in an accident associated with a natural gas transmission pipeline.

CO34-151 As stated in Section 4.13 of the DEIS, the FERC does not establish safety standards for pipelines; those standards are set by the U.S. Department of Transportation (DOT). Information regarding the costs of building the project to different yet undetermined (or unspecified in the comment) standards than those required by the DOT was not conducted, as there would be no standard in which to set this analysis by (i.e., a standard other than what is required by the DOT).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

We request application of Class 3 standards, at the minimum, along the pipeline route wherever there is a residence within 1000 feet of the pipeline. It seems criminal to place rural residents at greater risk because they live in a lower density area. Table 4.13.9.1-2 identifies three DOT 3 locations and high consequence areas totaling 3.1 miles. Please confirm that these three locations and their beginning and ending MP will be Class 3.

CO34-152

H. Geological Hazards.

The DEIS notes that the pipeline will cross areas of high liquefaction and/or lateral spreading as well as rapidly moving landslides. In these areas, the applicant proposes to monitor conditions and possibly implement additional mitigation measures at these locations. DEIS at 5-4. According to FEMA, "Large, permanent ground movements in the form of surface faulting, soil liquefaction, and landslides, are the most troublesome sources of damage to gas and liquid fuel pipelines (O'Rourke, 1987)." See FEMA, *Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government*, at 1 (FEMA-233, July 1992).

Therefore, a primary concern for buried pipelines is their ability to accommodate abrupt ground distortions or differential displacements. (ASCE, 1984). The amount and type of ground displacement across a fault or fault zone is one of the most important factors to be considered in seismic design of pipelines crossing active faults (ASCE, 1983). Since ground displacements are in most cases difficult to predict, it is also difficult to develop designs which will protect pipelines against their effects. The most common forms of ground displacements are faulting, lateral spreading caused by liquefaction, and slope failures (landslides).

Id. at 11-12. In addition to these severe direct effects on pipelines, secondary effects from earthquakes can also damage pipelines. For example, flooding, hazards from fallen power lines, and explosion hazards when gas lines are ruptured can all result as secondary effects of an earthquake. *Id.* at 12. The proposed monitoring outlined in the DEIS does not adequately address these risks or explain how the pipeline itself, including choice of pipe material, type of joints, arrangement of the network, length of segments, location and details of fittings and accessories are made. In addition, there is no evidence that where the pipeline is proposed in the vicinity of active landslides and liquefaction zones that any proposed measures can adequately protect against pipeline damage and disturbance to protect the environment and communities of Southern Oregon. The DEIS acknowledges as much, stating that "it is not possible to completely mitigate the risk of pipeline damage in Coos Bay resulting from lateral spreading during a megathrust seismic event." DEIS at 4-265.

CO34-153

The DEIS recognizes "that the consequences of a pipeline failure may be catastrophic and involve fire and/or explosion." DEIS at 4-269. Nevertheless, the DEIS fails to take a hard look at alternatives that would avoid locating the pipeline in areas of seismic activity that pose a risk to the safety of the pipeline and the communities around it.

CO34-154

CO34 Continued, page 91 of 138

CO34-152 Similar requests were also received during scoping. As explained in Section 4.13 of the EIS, the pipeline would be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. Pipeline class standards are clearly defined in Part 192 based on population density in the vicinity of the pipeline. FERC cannot assign arbitrary class location standards that differ from those defined in Part 192.

CO34-153 See discussion in EIS section 4.1.1.2, Pipeline, in subsections on Seismically Related Hazards, Surface Faults, Soil Liquefaction, and Other Geologic and Natural Hazards.

CO34-154 See section 4.3.3.3 for the analysis of seismic and landslide hazards. See the requirement that the applicant provide additional information.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS is clear, and based on our experience it is true, that the Pacific Connector pipeline will cross very unstable and steep slopes, as well as other areas that are geologically unpredictable. Where these areas exist on public lands, the Northwest Forest Plan requires that unstable and potentially unstable areas be designated as riparian reserves and put off limits to management. NFP S&Gs, C-31. There is no indication that FERC or the project proponent has complied with this requirement. 5 U.S.C. § 706(2)(A).

CO34-155

I. Use of Eminent Domain Is Inappropriate For This Pipeline, Because It Will Not Serve A Public Purpose.

CO34-156

1. The Project Does Not Benefit The American Public

Many of the undersigned previously protested the application, explaining that the project was contrary to the public interest. FERC has not responded to those protests. We reiterate those concerns herein.

The DEIS at 1-13 states:

Under Section 7 of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decision on technical competence, financing rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.

The Commission must also determine if there is a public benefit for U.S. citizens from Veresen, a Canadian company, building a terminal to export gas to Asia.

The DEIS tell us (1-20) the public benefit determination is entirely within the hands of the Department of Energy (DOE), and the DOE has already made a determination that exporting LNG would have a public benefit. DOE's evaluation is only conditional, and DOE has explicitly committed to revisiting this evaluation. In particular, DOE has not yet considered how the numerous and severe environmental impacts of the project influence DOE's public interest analysis. Even on purely non-environmental issues, however, we contend that DOE's conditional assessment is flawed, for reasons stated in our prior comments to DOE and FERC. Because DOE's conditional authorization is not final, is flawed, and is subject to future challenge, FERC cannot rely on it here.

Moreover, FERC has an independent duty to assess the public interest as part of its Natural Gas Act and NEPA analyses. As the DEIS says (3-63), it is "The Commission that will consider the need and public benefit of this Project".

The DEIS also says at 6-163: "A FERC Certificate would verify that the Project has a public need and provides significant public benefit." Therefore, FERC must consider what the public

CO34 Continued, page 92 of 138

CO34-155 The NWFP directed that during watershed analysis (WA) unstable areas including earthflows be considered in determining the widths of riparian reserves. The amount of area to be included in riparian reserves is based on several factors and the NWFP provided guidance on this analysis (see NWFP pages B-20 through B-30). Riparian reserves are not put off limits to management but are managed under a set of standards and guidelines in the NWFP. All of the watersheds crossed by the proposed PCGP within the NWFP have completed WAs and the riparian reserves generated from these WAs are included in the DEIS analysis. Subsequently, the BLM and FS worked closely with the applicant to identify and avoid areas of slope instability (e.g. Big Creek). Where locations could not be avoided (e.g. East Fork Cow Creek) additional design features were developed to address site-specific conditions and ensure consistency with LMPs (including the ACS objectives and standards and guidelines). Those additional design features are incorporated into Chapter 4.1 and Appendix J of the EIS.

CO34-156 The U.S. Congress decided to convey the power of eminent domain to private companies that receive a Certificate from the FERC when it passed section 7(h) of the NGA in 1947. Nowhere in the DEIS is there a statement that the Project would be in the "public interest." In fact, the Commission would make its finding of public benefit in its decision-document (Project Order). The EIS is not a decision-document. The Commission would issue its Order after we have produced an FEIS. The FEIS contains an analysis of mitigation measures and their expected effectiveness.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 93 of 138

benefit is of the Jordan Cove Project and document their findings. FERC must make their own determination and justify it in the EIS. The DEIS confirms this when it says: "The Commission will consider the need and public benefit of this project when making its decision on whether or not to authorize it..."

The DEIS adopts the IMPLAN-based economic projections offered by Jordan Cove. The problems with this modeling were discussed in Sierra Club's protest of the application. We reiterate those concerns here, and incorporate that argument by reference.

We can see the effects of a dynamic world on Coos County by looking at the last four decades. In 1970, Coos County had about 60,000 residents and lots of them were engaged in primary jobs such as timber cutting and commercial fishing. Today, most of the timber and fishing jobs are gone, so you might think the number of residents would have declined. In fact, it still has about 60,000 residents, partly because something else replaced those jobs, largely retirement money. The LNG terminal might create some new primary jobs, but it also might kill some primary jobs since some potential retirees may decide they don't want to live in a county with an LNG terminal.

The Jordan Cove EIS relies on ECONorthwest to use and interpret IMPLAN results. But ECONorthwest itself has challenged the use of IMPLAN to estimate the employment effects of another project. In a March, 2013 Critique of Substitute Environmental Document: "IMPLAN overestimates the true employment and economic impacts of alternatives" partly because economies "are not static."²⁴

FERC should find that United States citizens do not benefit from the profits of a corporation in a foreign country. Little of the profits made by Veresen in Canada on this project will trickle down to Oregonians. Landowners stretched across the southern part of the state will be made poorer as a result of land condemnations, lowered property values, and unjust and unequal compensatory remuneration. Taxes and payments offered to local counties are miniscule compared to their budgets and will likely not even cover the actual expenses of increasing emergency services to address increased hazards in rural Oregon.

Eminent domain was established for, and is useful for, projects that have a public use, like highways and electric lines. But a pipeline whose main purpose is to export gas to Asia does not have any benefit to U.S. citizens.

Likewise, Oregon does not substantially benefit from the 145 permanent jobs this project is expected to produce, of which only 100 will be local hires. There are robust alternatives to producing 145 local jobs. For instance, there is a drastic shortage of solar-panel installers in southern Oregon. A recent report found that we could create 2,500 permanent jobs through renewable energy development in Oregon.

²⁴ "Critique of Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay - Sacramento/San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality," prepared by ECONorthwest for Michael Jackson, March, 2013.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

More than 90% of the private landowners along the 230-mile long pipeline rejected the initial offers made by PCGP in the summer of 2013. Many of the landowners do not want a high-pressure, 36" unodorized gas pipeline near their homes, especially as we hear about pipeline explosions on the nightly news. Many landowners scoffed at the very low offers being made. For instance, Pacific Connector offered a landowner at MP 86 just \$2,294 for using 7.8 acres of their land.

At one public meeting landowners asked a representative of PCGP if they would pay an annual payment, similar to royalties, for the annual landowner expenses, such as having to pay property taxes on the PCGP right-of-way. The response was a quick "No. You can take your one-time payment and invest it, and the interest will be like royalties." Later, when landowners received their very low-ball offers, this statement appeared to be a joke.

Veresen Inc. will be making billions and billions of dollars by using private land in southern Oregon. They have an unfair advantage over families to start with, because they have well-paid staff trained to justify low payments and get our land for the cheapest price possible. Landowners are even more crippled when they have the threat of eminent domain hanging over the negotiations for property.

To help U.S. citizens gain an equal footing with Veresen, the Commission should not find that this project has a public benefit and should not allow eminent domain. The DEIS 1-12 points out that under section 3 of the NGA, the Commission considers "all factors" bearing on the public interest. This should include how the threat of eminent domain interferes with fair negotiations for using private property.

2. Purpose of Pipeline.

DEIS page 1-13 says one of the purposes of the pipeline is "to supply additional volumes of natural gas to markets in southern Oregon...Pacific Connector intends to deliver about 40 million cubic feet of natural gas per day to Northwest's existing Grants Pass Lateral through an interconnection with the proposed Clarks Branch Meter Station." What the DEIS failed to disclose is how much natural gas will be withdrawn from the Grants Pass Lateral, through the Coos Bay 12" line that is north of the proposed Clarks Branch Meter Station. If Jordan Cove uses 40 million cubic feet from the Grants Pass Lateral through the 12" Coos Bay line, and then puts 40 million cubic feet back in at Clarks Branch, that equals *no* extra gas for Oregon, which does not meet the stated purpose of the Pacific Connector Pipeline.

At the FERC public hearings at Canyonville, John Clark testified and presented paperwork showing Jordan Cove had a contract to remove as much natural gas from the Grants Pass Lateral (via the Coos Bay 12" line) as they claim they will put back in.

FERC must fully disclose the net amount of gas that would be supplied to Oregon to determine if the purpose of the PCGP is being met and if there is a true public benefit for Oregon.

3. Blanket Certificate.

94

CO34 Continued, page 94 of 138

CO34-157 As stated on page 1-13 of the EIS the purpose of the Pacific Connector Pipeline is two-fold: (1) to provide natural gas to the Jordan Cove LNG terminal; and (2) to supply additional volumes of natural gas to markets in southern Oregon. The Commission will determine, in its review of the Project, whether the Project as proposed would meet the purpose.

CO34-157

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The DEIS says, page 1-2:

Pacific Connector also requested a blanket certificate to allow for future construction, operation, and abandonment activities under Subpart F of Title 18 Code of Federal Regulations (CFR) Part 157 of the Commission's regulations, and requested a blanket certificate to provide open-access transportation services under its tariff in accordance with Subpart G of Part 284. Requests for these future actions performed under the blanket program are restricted to minor actions and would be filed as prior notices or in annual reports that would be subject to individual environmental reviews by FERC staff in accordance with Part 157.206.

The Commission cannot issue a blanket certificate to allow unknown impacts to landowners along the pipeline. Because the DEIS did not define the scope of a "blanket certificate", it could allow PCGP to do anything to private land that PCGP considered a "minor action", like construction of buildings, new roads, etc. What PCGP might consider "minor", the landowner might not. "Minor" should have been, but was not, well defined.

The DEIS says that future actions allowed under this blanket certificate is "subject to individual environmental reviews by FERC staff..." However, the DEIS failed to clarify if this would be a review in compliance with the National Environmental Policy Act (NEPA), or if it would simply be an internal review not subject to public input. We have asked Paul Friedman this question twice, in writing, and have received no answer. FERC should clarify that any action taken under the "blanket certificate" is subject to NEPA review, allowing full public and scientific input.

A "blanket certificate" allowing unknown impacts is not allowed by NEPA. "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality." The DEIS violates this requirement.

4. Rural Emergency Services.

The DEIS failed to consider that rural areas in Oregon are not prepared to deal with the emergencies that a high-pressure gas pipeline could cause. There are going to be only 17 mainline block valves on the entire 230 miles of the pipeline. Therefore, if there is an accident or natural disaster, there could be significant damage done before a person can drive to one of the valves to turn it off and then let the gas burn out of 1/17th of the pipeline.

The taxes PCGP is providing the counties is not nearly enough to upgrade the needed rural emergency services to address potential problems.

The DEIS has underestimated the difficulty in road-building and trenching on Oregon's steep, unstable, landslide prone, earthquake susceptible mountain slopes. This puts rural Oregonians in additional peril from accidents that occur due to heavy rain or geologic events, especially since the pipes are thinner in rural areas, and we have inadequate emergency response capabilities.

CO34 Continued, page 95 of 138

CO34-158 FERC does not reply to individual letters. The comments are included here as is the response. Typically, if the Commission authorizes the project, it would be conditioned on meeting local, state, and federal laws and requirements prior to construction. Note that it is not FERC that determined who gets eminent domain authority, it was the US Congress.

CO34-159 Section 4.13.9-1 of the EIS describes measures that Pacific Connector would implement to support and supplement the existing emergency response capabilities in the communities crossed by the pipeline. Measures would be included in an Emergency Response Plan as required by USDOT pipeline safety regulations.

CO34-158

CO34-159

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Increased fire-fighting expenses are also not covered by PCGP. Because of the short vegetation maintained in the right-of-way, forest fires will be able to travel across the landscape quicker than without a clear path of short, dry brush. The money given to local governments does not cover the extra forest-fire fighting costs, thus endangering rural residents even more.

CO34-159
continued

5. Bonding.

The DEIS documents (2-132) the "bond or letter of credit" posted by Jordan Cove "to cover the amount in the estimate to retire the facility". FERC should also require Jordan Cove and PCGP to post a bond to cover damages from the pipeline while it is service, not just at retirement. For instance, if the pipeline blows up and starts a forest fire, impacted families should be assured that PCGP can pay for the damages they cause.

CO34-160

6. Other Landowner Concerns.

Comments filed with the FERC by Barbara Gimlin on December 16, 2014 provide compelling evidence that staff hired by Jordan Cove and Pacific Connector have a conflict of interest and may not report required environmentally sensitive information. FERC and the federal land management agencies should publicly identify the number of third-party environmental monitors hired, the areas for which they are responsible and contact information. The scope of the third-party monitors should include work performed on private property.

CO34-161

What specific process is available to a property owner along the pipeline right-of-way if there are concerns that quality assurance standards, compliance with mitigation measures and other applicable regulatory requirements are not being met or followed? If the Chief Inspector and the EI work for Pacific Connector, there must be a clear and timely process for taking concerns beyond Pacific Connector representatives if the Chief Inspector or other Pacific Connector representative does not resolve the concern.

CO34-162

Will the public have the opportunity to review the Landowner Complaint Resolution Procedures prior to the issuance of the final EIS? What types of complaints are eligible for review? Do the procedures provide for appeal to a neutral third party if the Landowner is not in agreement with a decision by Pacific Connector? If there is a neutral third party reviewer, does this individual have the authority to award damages in applicable situations if the landowner prevails.

Pacific Connector should be required to post a bond for damages resulting from construction of the pipeline including, but not limited to, contamination of wells, erosion, drainage or failure to restore areas disturbed during construction in accordance with the ECRP.

FERC should not allow the permanent easement to be used for any purpose other than the interstate transportation of natural gas.

CO34-163

J. Forest Plan Amendments.

1. Forest Plan Amendments Generally.

CO34 Continued, page 96 of 138

CO34-160 The FERC does not require companies to post bonds. In the unlikely case of an accident the company would be liable, and covered by insurance.

CO34-161 The EIS is being prepared with the help of a third-party contractor; however all of the analysis is review by FERC staff and revised if needed. Information about the preparers, including the company they work for, is presented in Appendix T of the DEIS. All contracting requirements have been complied with.

CO34-162 Once the applicant complies with all legal requirements and is authorized to begin construction, if the landowner and the applicant cannot reach a negotiated agreement the matter would be decided in court.

CO34-163 Comment noted.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

As acknowledged on page 2-36 of the DEIS, the proposed pipeline construction across federal public forestlands involves numerous actions that are inconsistent with the planning documents and management intent for those lands. The proposed violations of the underlying land use plans are significant, irreversible and irretrievable and may retard and prevent accomplishments of the goals and objectives of the land management plans (Resource Management Plans, RMPs on BLM lands; Land and Resource Management Plans, LRMPs on Forest Service lands). There are two concerns with this approach.

First, while the Forest Service does have the ability to implement site-specific forest plan amendments to exempt a project from compliance with forest plan requirements, the BLM does not have similar authority. We were unable to locate any reference in the DEIS to BLM's authority to use site-specific forest plan amendments to exempt a project from compliance with applicable forest plan requirements. Given that, FERC's reliance on site-specific forest plan amendments on BLM lands is arbitrary, capricious, and not in accordance with law. 5 U.S.C. § 706(2)(A).

CO34-164

Second, given the magnitude of the forest plan violations and the forest plan amendments necessary to address them, in conjunction with the serious adverse effects to public land resources as a result of the proposed project, it is plain that these amendments are in fact "significant" and therefore require additional analysis.²⁵ The DEIS whittles the forest plans down piece by piece without having to go through the rigor of public input and review of developing a new Forest Plan. *League of Wilderness Defenders, et al. v. Connaughton, et al.*, No. 3:12-cv-02271, *50 (D. Or. 2014) ("the ROD and final EIS do not adequately articulate a rational connection between the characteristics of the project area and the choice to adopt site-specific, rather than forest-wide, amendments").

CO34-165

Reliance on site-specific forest plan amendments in this fashion violates NFMA's requirement that forest plans "form one integrated plan for each unit of the National Forest System, incorporating in one document or one set of documents, available to the public at convenient locations, all of the features required by this section." 16 U.S.C. § 1604(f)(1).

NFMA imposes substantive constraints on management of forest lands, such as a requirement to insure biological diversity. *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 898 (9th Cir. 2002). The NFMA and its implementing regulations subject forest management to two stages of administrative decision making. At the first stage, the Forest Service is required to develop a Land and Resource Management Plan, also known as a Forest Plan, which sets forth a broad, long-term planning document for an entire national forest. At the second stage, the Forest Service must approve or deny individual, site-specific projects. These individual projects must be

²⁵ Because the BLM does not have the authority to implement site-specific forest plan amendments, there are no standards by which to gauge whether the amendments are significant. *Contrast, Lands Council v. Martin*, 529 F.3d 1219, 1227-1228 (9th Cir. 2008) ("Under the relevant statute and regulation, the correct procedure depends on the scope of the amendment: 'Significant' amendments require a lengthy and detailed amendment process; otherwise, a simpler notice and comment process suffices. 16 U.S.C. § 1604(f)(4); 36 C.F.R. § 219.10(f) (2000). Specifically, the statute provides that, if the Forest Service chooses to amend a forest plan, the forest plan 'shall...be amended in any manner whatsoever after final adoption after public notice, and, if such amendment would result in a significant change in such plan, [after procedures in addition to public notice have taken place].'" 16 U.S.C. § 1604(f)(4)).

CO34 Continued, page 97 of 138

CO34-164 The authorities for considering amendments to BLM Resource Management Plans for a proposed project are discussed in section 4.1.3.4 in the DEIS and in section 2.2 of Appendix H to the DEIS. Specifically the implementing regulations for FLPMA at (43 CFR 1610.5-5) describe the process for amending RMPs. Additional discussion has been added to section 4.1.3.4 in the FEIS.

CO34-165 An evaluation of the significance of the proposed amendments is included in section 4.1.3 of the DEIS. These proposed amendments are going through public input and review as part of the FERC EIS process. The PCGP project would only affect a very small portion of each of the affected BLM and FS management units and would apply only to the PCGP project. Developing a new LMP is not necessary because the scope of the analysis specifically responds to a right of way application and related plan amendments.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

consistent with the Forest Plan. *Great Old Broads for Wilderness v. Kimbell*, 709 F.3d 836, 851 (9th Cir. 2013) (“the NFMA prohibits site-specific activities that are inconsistent with the governing Forest Plan”); see also *Neighbors of Cuddy Mtn. v. Alexander*, 303 F.3d 1059, 1062 (9th Cir.2002) (“[s]pecific projects ... must be analyzed by the Forest Service and the analysis must show that each project is consistent with the plan”). The Forest Service’s “interpretation and implementation of its own forest plan is entitled to substantial deference.” *Great Old Broads*, 709 F.3d at 850 (9th Cir. 2013) (internal quotation marks omitted).

The agency must articulate a “rational connection between the facts found and the choice made” to enact a geographically-limited, site-specific amendment rather than a general amendment to the Forest Plan as a whole. *Lands Council v. Martin*, 529 F.3d 1219, 1228 (9th Cir. 2008). Any Forest Plan amendment that results in a “significant change” requires the agency to prepare an EIS; non-significant amendments only require the simpler notice and comment process. *Lands Council v. Martin*, 529 F.3d at 1227.

2. Survey and Manage Forest Plan Amendments Are Significant.

The contention on page 4-40 of the DEIS that proposed survey and manage plan amendments are not significant is in error. The proposal to directly impact habitat at 386 known survey and manage sites involving 62 rare species is a major change in management direction and will directly impact a significant number of high value species.

CO34-166

3. Soil Forest Plan Amendments Are Significant.

The DEIS proposes to violate/amend soil standards to facilitate pipeline construction. As acknowledged on page 4-49 the negative effects to soils from project activities that violate the existing forest plans are both significant and “long term.” Many of these negative impacts to soils will occur in previously protected land use allocations such as LSRs, riparian reserves and Key Watersheds. Additional (but unanalyzed and undisclosed) soil compaction will be associated with road widening throughout the project area and yarding activities to facilitate forest clearing. The cumulative impacts of violating existing soil protection standards through clearcutting, pipeline construction, road widening and yarding activities are significant, irreversible and long term. Please note that page 4-66 of the DEIS indicates that no road decommissioning mitigation measures are proposed on the Winema National Forest to compensate for the proposed plan amendments to allow for additional significant long-term soil damage associated with the project.

CO34-167

4. Forthcoming Forest Service and BLM Environmental Impact Statements and Record of Decisions.

Given the proposed impacts to LSRs, riparian reserves, and ACS objectives, the BLM and Forest Service must conclude that the proposed project does not conform with existing land use plans and will result in significant, irreversible and irretrievable impacts to its resources and programs. We understand that the land management agencies will be preparing separate NEPA analysis and approval for forest plan amendments and other impacts on federal lands under their jurisdiction. This comment letter should be considered as a formal expression of interest in this process, and

CO34-168

CO34 Continued, page 98 of 138

CO34-166 An analysis of the proposed survey and manage plan amendments is included in the DEIS (see section 4.1.3.4, 4.7.4, and Appendix K). The analysis determined that the management objectives of the survey and manage mitigation measure (to provide for reasonable assurance of species persistence) could continue to be met with the proposed amendment. This analysis is based on the surveys that were conducted, information known about the species, and the proposed reroutes to avoid areas where species persistence would be a concern. An evaluation of the significance so the proposed amendment is provided in section 4.1.3.4 of the DEIS.

CO34-167 The impacts to soils are addressed in the DEIS (see sections 4.1.3.4, 4.3, and 4.14). We could not find any discussion on page 4-66 of the DEIS that would indicate there is no proposed road decommissioning mitigation on the Winema NF. There are over 21 miles of road decommissioning proposed for the Winema NF (see Table 2.1.4-2 and Appendix F of the DEIS).

CO34-168 An evaluation of the significance of the proposed amendments is included in section 4.1.3.4 of the DEIS. These proposed amendments are going thru public input and review as part of the FERC EIS process. The BLM and Forest Service have included their proposed LMP amendments in the FERC EIS and are using FERC's NEPA document to support agency decision-making as described in section 1.4.2 of the DEIS consistent with the requirements of the Energy Policy Act. There may be additional NEPA analysis for the proposed mitigation actions in the compensatory mitigation plans if the PCGP project is approved and constructed. These mitigation proposals would go through the normal notice and comment procedures at that time.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

we request that each signatory receive notice and relevant documents associated with any additional environmental analysis and public comment undertaken by the Forest Service and/or BLM.

CO34-169
continued

H. Compliance with the Northwest Forest Plan.

Although the DEIS outlines several forest plan amendments to exempt the Pacific Connector pipeline from compliance with applicable forest plans, in particular the requirements of the regional Northwest Forest Plan (NFP), it is clear that the pipeline will violate additional provisions of the NFP. In particular, it appears that the project is inconsistent with all nine Aquatic Conservation Strategy (ACS) Objectives (ACSOs), as well as standards and guidelines pertaining to the Survey and Manage program, late-successional reserves, key watersheds, matrix land allocation, occupied marbled murrelet sites, and riparian reserves. NFP Standards and Guidelines, B-1 – C-61.

Across the Pacific Northwest within the range of the northern spotted owl, the land management agencies and the consulting agencies have relied on the NFP as the basis for listed species conservation and conservation of regional biodiversity, water quality, and other public land amenities. Exempting a single linear project from compliance with NFP requirements undermines the regional framework, and casts into doubt the legality of any historic and subsequent projects. For example, FWS and NMFS rely on the inviolable nature of the ACS and Riparian Reserve standards and guidelines when assessing the effects of timber harvest and other land management decisions on listed species and their habitat. However, if the requirements of the ACS and the NFP are no longer assured, then the agencies cannot rely on the conservation benefit from these requirements, and will be required to create a new framework against which to gauge environmental impacts.

The DEIS must fully analyze the pipeline's compliance with the many provisions of the Northwest Forest Plan.

1. Aquatic Conservation Strategy.

Implemented in 1994, the Aquatic Conservation Strategy of the Northwest Forest Plan was designed to restore and maintain ecological processes for aquatic and riparian area conservation on federal lands in the western portion of the Pacific Northwest. In the first approximately 10 years of strategy implementation, watershed condition scores changed modestly, but conditions improved in over half of 250 sampled watersheds, declined in over a quarter, and remained relatively the same in the remainder. Notably, much of the increase in watershed conditions is related to improved riparian conditions. Likewise, positive recovery areas had increased numbers of large trees, and there were substantial reductions in tree harvest and other disturbances along streams.

These preliminary results make a compelling case that protection of aquatic resources from *any* disturbance, in addition to *continuous restoration* of key watersheds, is essential to not only compliance with Aquatic Conservation Strategies under the NWFP, but the ultimate survival of species like salmon. As described below, the Project's pipeline and contemplated upstream

CO34-169

CO34-170

CO34 Continued, page 99 of 138

CO34-169 Compliance with BLM and FS LMPs as amended by the NWFP (including those LMPs that incorporated the NWFP ROD and subsequent related decisions) is addressed in section 4.1.3.5, 4.1.3.6 and in Appendices E, F, H, J and K of the DEIS. Pipeline route modifications, on site design features and compensatory mitigation have been designed to meet the objectives and appropriate Standards and Guidelines (BLM Management Direction) from these LMPs.

CO34-170 Compliance with the ACS is addressed in section 4.1.3.5 and in Appendix J of the DEIS. Pipeline route modifications, on site design features and compensatory mitigation have been designed to meet the ACS Objectives.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 100 of 138

actions will violate numerous ACS by creating or inciting impacts that will significantly inhibit crucial elements of the ACS, and therefore cannot be authorized.

CO34-170
continued

We remind FERC that the Aquatic Conservation Strategy (ACS) is a scientifically based framework for ensuring that land-disturbances will not damage salmon watersheds. It recognized the destructive impacts of bad land-use practices—particularly clear-cutting on steep slopes, fragile soils, and in streamside corridors. In the past, such land-use practices have choked salmon streams with sediment, caused landslides that dump mud and debris on salmon spawning beds, raised stream temperatures, and precipitated a decline in salmon populations.

Dr. Jim Sedell, a Forest Service fisheries biologist, who was instrumental in developing the Aquatic Conservation Strategy, pointed out: "The best habitat that remains, remains on public lands, and that land . . . is probably some of the most fragile parts of the landscape that we have left... The protection of the best habitat of what we have left is going to be crucial to anchor the maintenance and recovery of these stocks." In turn, the Aquatic Conservation Strategy responded to the decline of Pacific salmon. It was designed to maintain and restore functional habitat for salmon and other aquatic species by managing public forests on a watershed-wide basis, and prohibiting projects that do not maintain existing conditions or lead to improved watershed conditions.

The Strategy includes:

- establishing streamside buffers where logging generally may not occur
- performing watershed analyses to create a scientific record to direct logging and restoration activities
- protecting key watersheds containing fish strongholds or priority restoration areas
- encouraging comprehensive and pro-active watershed restoration to speed ecosystem recovery

Applicable to the Project and its proposed pipeline are the "Factors of Decline" under the ACS, especially those elements found under the Physical Habitat, Water Quality, Water Quantity, and Biological Condition categories. For instance, objective number one, which directs management actions to "Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted" is all encompassing in that it logically results in most elements within the four categories being addressed.

Other ACS objectives are more specific and can be directly linked to Factors for Decline within the Physical Habitat, Water Quality, and Water Quantity categories. For example, objectives three, five, and eight promote maintenance and restoration of channel morphology, natural sediment regimes, and riparian and in-stream habitat features, respectively. Further, objectives four, six, and seven emphasize water quality, in-stream flows, and timing and duration of flood events, respectively. Finally, objective two emphasizes uninterrupted riparian and stream channel connections within and among watersheds, while objective ten promotes well distributed populations, both of which promote or relate to fish passage issues.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

2. Riparian Reserves.

Riparian Reserves are a key component of the ACS for salmon. They help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams (2) providing root strength for channel stability (3) shading the stream, and (4) protecting water quality. The USFS has estimated that approximately 20% (1,342 miles) of all coho-bearing streams and 10% (131 miles) of all HIP streams are currently afforded protection (passive restoration) under the Riparian Reserve network.

The relative percentage of HIP streams on BLM and FS-administered lands actually available to coho may be greater than 10%. The total number of stream miles identified as having HIP includes all streams that currently provide, have the potential to provide, or once had the potential to provide quality over-winter habitat for juvenile coho. For instance, a percentage of HIP streams may never serve as over-wintering habitat into the foreseeable future because they have been significantly altered through urban or rural development. The majority of HIP stream miles on BLM and FS-administered lands offer suitable over-wintering habitat or are being managed under the ACS to promote such habitat. Therefore, maintenance of these Riparian Reserves or improvement thereof is of critical importance to improving salmon health and compliance with the NWFP, particularly as the current and future condition of non-federal HIP streams is not subject to control of agencies, meaning there is an increased degree of importance for ACS administered streams in terms of coho recovery.

As discussed *supra*, the Project and its pipeline will incite or create significant, negative impacts on riparian habitat within Riparian Reserves. The DEIS fails to accurately account for those impacts and assess their significance in light of the ACS' foci and the NWFP's mandates as regards salmon. For example, the DEIS fails to attribute significance or analyze the impacts arising from destabilization of upstream headwaters and riparian zones that contribute large woody debris essential to salmon viability.

Specifically, there are 21,312 miles of non coho-bearing streams on BLM and FS-administered lands that can contribute coarse woody debris to coho-bearing streams. Many of these streams are fish-bearing and are well suited for steelhead and other native resident fish species. Further, all of these streams, which are managed under the ACS, occur throughout the Oregon Coastal coho ESU, most of which occur in the Umpqua monitoring area, followed by the Mid Coast, Mid-South Coast, then North Coast monitoring areas. Even though these streams may not offer habitat to coho salmon, they provide large woody debris to such species' habitat.

Proving this theory, the Forest Service Pacific Northwest Research Station (Forestry Sciences Laboratories) studied the Smith River watershed, located in the Umpqua River basin, to describe the importance of contributions of large wood to streams from various land ownerships and in turn, to salmon habitat. The results showed that 85% of all large wood (>50cm dbh) from debris flows—having direct connections to coho-bearing streams—will originate on BLM and FS administered lands. Because 55% of the debris-flow prone areas are under BLM and FS ownership, that study demonstrated that the ACS Riparian Reserves would produce disproportionately more large wood (compared to other land ownerships) during storm events for recruitment into ESU streams.

101

CO34 Continued, page 101 of 138

CO34-171 Compliance with the ACS is addressed in section 4.1.3.5 and in Appendix J of the DEIS. Appendix J of the DEIS provides a comprehensive discussion of compliance with all ACS objectives for each 5th-field watershed that encompasses federal lands. The BLM and FS have worked closely with the applicant and FERC to develop the Erosion Control and Revegetation Plan in a manner that is consistent with all seven LMPs. The Final EIS includes a discussion of site-specific crossing restoration plans that will be used in addition to measures identified in the ECRP to address impacts to sediment, large woody debris and riparian vegetation in a manner consistent with the ACS.

CO34-171

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Because Riparian Reserves will contribute disproportionately more large wood to streams than most other land owners throughout the ESU, there is a special need for ACS objectives to be strictly maintained. Put another way, the Project's pipeline will destroy or negatively affect, directly, indirectly, and cumulatively, the availability of woody debris in ACS Riparian Reserves. In turn, the decrease in large woody debris from ACS areas that would be affected by the Project will disproportionately affect necessary protection of salmon habitat requirements.

CO34-172

This is but one example of how ACS Riparian Reserves contribute vital habitat and other ecological factors key to salmon viability and recovery; as further described below the DEIS fails to use sound science and analyze these impacts or rationally consider science demonstrating how the Project will adversely affect maintenance of Riparian Reserves under the ACS and NWFP.

The DEIS failed to account for four key reasons its Project will violate the ACS by impairing the management of Riparian Reserves. First, the pipeline will negatively affect maintenance of existing Riparian Reserve conditions required under the ACS. The pipeline would decrease the presence of riparian buffers and large wood, increase sediment from roads and landslides, and decrease fish passage at road crossings. Second, the pipeline would negatively affect restoration of in-stream habitat. Specifically, by altering and degrading already degraded riparian zones, the pipeline ignores the ACS' emphasis on the neutralization of threats, on providing for quality freshwater habitat during times of poor ocean survival, and promoting widespread distribution of appropriate habitat conditions. Indeed, the pipeline will further degrade – not restore – Riparian Reserves and thus retard any attempts at passive restoration and significantly diminish those areas' ability to attain appropriate habitat conditions necessary for salmon recovery.

CO34-173

Third, human activities influence stream temperature by affecting one or more of the following: riparian vegetation, channel morphology, hydrology, and surface/subsurface interactions. The ACS Riparian Reserves passive management and non-degradation approach is intended to promote continued growth of riparian vegetation along stream channels, which intercepts solar radiation—the principle energy source for stream heating. In addition, passive management and non-degradation ensures large woody debris inputs and bank stability that help creates desired—narrow and deep—channel dimensions, decreasing the surface area/volume area and rate of temperature increase. The Project's pipeline will negatively affect achievement of those objectives by virtue of its inherently degrading nature. The pipeline will destabilize riparian zones, cut swaths and edge-effect through intact canopy and riparian areas, affect the stability of steep slopes, contribute unnatural sediment loading and thus incite many of the effects increased sediment loading entails for salmon, habitat, and water quality (*see supra*). Furthermore, the pipeline's construction and maintenance ensures new road networks on BLM and FS-administered lands, intensively used, which will detract from desired surface/subsurface interactions.

Last, Riparian Reserves are managed for the importance of building a connection between lowland and upland riparian areas. Management of lowland riparian zones that halts disturbances and degradation in conjunction with like efforts on adjacent uplands is needed to maintain the dynamics of riparian structure and function across the landscape. Indeed, the ACS guidance recognizes "[p]rotection of intact, functional aquatic habitats should be the first priority

CO34 Continued, page 102 of 138

CO34-172 Consistency with the management objectives for riparian management and the ACS are addressed in the DEIS (see sections 4.1.3.5, 4.4.4 and Appendix J). The BLM and Forest Service have proposed a compensatory mitigation plan that includes placement of large woody debris in riparian reserves (see sections 4.1.2 and Appendix F of the DEIS).

CO34-173 Compliance with the ACS is addressed in section 4.1.3.5 and in Appendix J of the DEIS. Appendix J of the DEIS provides a comprehensive discussion of compliance with all ACS objectives for each 5th-field watershed that encompasses federal lands. For each of these watersheds, the project was evaluated specifically to the nine discrete (and interrelated) ACS objectives using the best information available to the BLM and FS at the time the DEIS was issued. Subsequently, in response to FERC data requests, additional information has been included in the FEIS related to water quality and conditions of Riparian Reserves associated with proposed crossings of perennial streams on BLM and FS lands. The BLM and FS have worked closely with the applicant and FERC to develop the Erosion Control and Revegetation Plan, and the Wetland and Waterbody Crossing Plan, in a manner that is consistent with all seven LMPs. The Final EIS includes a discussion of site-specific crossing restoration plans that would be used in addition to measures identified in the ECRP to address impacts to sediment, temperature, large woody debris and riparian vegetation in a manner consistent with the ACS. The analysis presented in Appendix J to the FEIS also acknowledges the location and potential impacts that could occur as a result of the use, reconstruction and construction of temporary and permanent access roads.

for salmonid recovery efforts.” It logically follows that protecting and improving buffered streams will serve as an integral element to the creation of functional riparian corridors across land ownerships that, together, support salmon propagation and recovery. As described in three above, the pipeline’s many impacts will in fact degrade and halt, not enhance, connectivity between lowland and upland areas. The DEIS wholly fails to account for the dubious effectiveness of BMPs (an issue discussed in-depth *supra*) and thus cannot be reconciled with the ACS’ focus on connectivity, nor any other element key to protection and management of Riparian Reserves.

CO34-173
continued

3. Key Watersheds.

Supplemental to the protections afforded salmon under Riparian Reserves in the ACS are “Key Watershed” denominations. There are 34 Key Watersheds distributed throughout the four monitoring areas under the ACS and NWFP: North Coast (4), Mid-Coast (10), Umpqua (14), and Mid-South Coast (6). Further, the Key Watersheds are concentrated within 13 population units, covering 1,358,105 acres.

Widespread distribution of salmon populations in watersheds and appropriate habitat conditions must be achieved during periods of good survival to provide a buffer against subsequent periods of poor survival. Key Watersheds help address this issue in that they are widely distributed across and offer or, where managed successfully, will offer quality habitat through the Riparian Reserves. Therefore, these watersheds are logically priority areas for targeted restoration and protection.

The 34 Key Watersheds play a role in maintaining or securing meta-population groups distributed throughout the salmon’s range. For instance, most federal lands in Key Watersheds have significant miles of coho-bearing streams, but most of the HIP stream reaches are concentrated on non-federal lands. For this reason, it can be assumed that most core areas are concentrated in the non-federal lowlands while the satellite areas are supported by the federally owned portions of the watersheds. If the HIP stream miles on non-federal lands are in a degraded condition however, which many are, the coho-bearing streams under ACS management (or satellite areas) offer the best available habitat for a group of coho within a meta-population. Thus Key Watersheds must be managed proactively for protection and restoration under the ACS.

Truly, riparian buffers, large woody debris inputs, sediment from roads and landslides, and fish passage at road crossings are the most important habitat issues related to the recovery of salmonids in western Oregon forests. The ACS recognizes that all stream channels and riparian areas in the NWFP area are in a continual process of restoration, either through active restoration, passive restoration, or both. Thus, on a very base level, the Project’s pipeline is inconsistent with the management directives applicable to Key Watersheds. The pipeline’s construction and maintenance will upset the delicate ecological gains achieved in some areas and, in others, further degrade conditions where restoration is essential. As the ACS guidance has recognized, maintaining and restoring productivity and resiliency of riparian and aquatic ecosystems is the cornerstone of the NWFP’s strategy for salmon. The Riparian Reserves serve as a restorative foundation for all streams and riparian areas on BLM and FS-administered lands,

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

while the Watershed Restoration programs target Key Watersheds. Here, the Project's pipeline threatens to undermine both strategies by further degrading important waterways and watersheds, and therefore is wholly inconsistent with the ACS under the NWFP.

Stressing the importance of faithful implementation and compliance with the ACS, Judge William Dwyer cautioned in upholding the NWFP in 1994 that: "[i]f the plan as implemented is monitoring, watershed analysis, and mitigating steps called for by the [Record of Decision] will have to be faithfully carried out, and adjustments made if necessary." Here, FERC must recognize that the Project pipelines is without doubt incompatible with protection and recovery of salmon or their habitat and, as Judge Dwyer noted, uphold the NWFP by denying any pipeline authorization.

4. Late Successional Reserves.

As acknowledged on page 3-63 of the Jordan Cove DEIS, the Northwest Forest Plan (NWFP) requires that developments (such as pipelines) in LSRs must be neutral or beneficial "for the creation and maintenance of late-successional habitat." That substantive requirement of the NWFP is not met by the proposed action.

CO34-174

As stated on page 4-15 of the DEIS, the NWFP ROD (at C-17) requires that "Developments of new facilities that may adversely affect LSRs should not be permitted...pipelines...may be approved when adverse impacts can be minimized and mitigated. These [projects] would be planned to have the least possible adverse impacts on LSRs." It is critical to note that the NWFP ROD anticipated pipeline construction and specifically addresses it at C-17. Hence if pipeline construction was intended to be exempt from LMPs, the NFP ROD would have indicated that. The NWFP ROD does not provide for plan amendments that exempt pipeline construction from standards and guidelines pertaining to riparian reserves, survey and manage, soil protections or LSRs. Rather, the ROD anticipated pipeline construction and indicated that it should not be permitted unless the impacts could be mitigated and would achieve a neutral or beneficial result for LSR management. Yet the Jordan Cove DEIS calls for amending forest protection LMP standards that conflict with the financial desires of the project applicant.

Here the pipeline project has not been planned so as "to have the least possible adverse impacts on LSRs." As will be discussed later in these comments, the Rogue River-Siskiyou National Forest proposed a "Roads Route" action alternative that would have significantly reduced impacts to LSR 227 (managed by the Forest Service) but it was not carried forward for analysis in the DEIS. Instead the proposed action in the DEIS calls for actions that will remove forests and increase habitat fragmentation in the LSR. Hence the project has not been designed to have the least possible adverse impacts to LSRs and the decision maker and the public cannot know the tradeoffs associated with implementing the project in the manner suggested by the Forest Service as having the least possible adverse impacts on LSRs.

CO34-175

The habitat removal and modification associated with project implementation would retard the creation and maintenance of late-successional habitat in the LSRs. Mitigation would not result in the project having a neutral or beneficial outcome for LSRs.

CO34 Continued, page 104 of 138

CO34-174 Pipeline route modifications, on site design features, and compensatory mitigation have been designed so that overall the PCGP project would be neutral or beneficial to the creation and maintenance of late-successional habitat in LSRs (see section 4.1.3.6, 4.1.3.7 and Appendices F and H of the DEIS).

CO34-175 The "Roads Route Alternative" proposed by the Forest Service is discussed in the EIS (see DEIS page 3-52 to 3-55). This route was not selected because it would have been 3 miles longer and have imposed a greater construction footprint in the LSR, and was not constructible in places due to terrain and tight radius turnpoints. It is important to note however that the original May 2006 route proposed by the applicant was modified to incorporate as much of the proposed Forest Service "roads route" as was feasible. As a result the proposed route in the 2014 DEIS incorporates recommendations of the "roads route," such as co-locating the pipeline within existing forest road corridors and within regeneration harvested areas, to minimize impacts to mature forests in LSR 227. After working with the applicant to create the modified route the Forest Service determined that neither the May 2006 route, nor the USFS "roads route" would be environmentally preferable to the modified proposed route. Additional discussion has been added in the FEIS to clarify this. There are also numerous past timber harvest areas in this location and as such there is little existing interior forest habitat in this portion of the LSR (e.g. see page 7 of Appendix R2 of the DEIS). Additional discussion of the Forest Service "roads route" has been added in the FEIS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Page 4-161 of the DEIS indicates that through forest clearing (clearcutting) and increased forest fragmentation (edge effects) the pipeline project will adversely affect 1,760 acres located on federal LSRs that are intended to be managed to retain and promote late-successional forest habitat. Please note that the DEIS acknowledges on page 3-64 that "unavoidable impacts on LSRs would require mitigation measures that in the long run would make the project neutral or beneficial" to LSR habitat. The proposed mitigation measures contained in the DEIS fail to result in a neutral or beneficial project to LSRs for the reasons delineated below. Please note that on page 4-164 the DEIS analysis of project mitigation illegally tiers to a "Compensatory Mitigation Plan (CMP)" that is allegedly contained in Appendix O of the project Biological Assessment (BA). The content of this CMP cannot inform the project as the BA is unavailable for public or agency review during the DEIS commenting period.

The LSR mitigation measures that are described in the DEIS (we cannot know if they track the content of the CMP) establish that the negative impacts of project activities on LSRs significantly outweigh the alleged benefits of the proposed mitigation as disclosed in the DEIS.

Page 4-188 of the DEIS indicates that the pipeline project will adversely impact 198 acres of LSR 223 managed by the Roseburg District BLM. Page 4-189 then concludes: "There are no proposed amendments to reallocate Matrix lands to LSR 223 in the BLM Roseburg District. This is due primarily to the lack of suitable LSOG forest habitat in the Matrix near the LSR and the pipeline. There is, however, a proposed amendment to reallocate Matrix lands to LSR 223 in the Umpqua National Forest, which borders the east side of the BLM Roseburg District." In other words, the DEIS indicates that the pipeline project will directly harm LSR function on Roseburg BLM lands in a portion of the landscape that has been so heavily fragmented by past federal and private logging that no LSOG habitat of value exists near the planning area that can mitigate for the additional loss of LSR habitat. Converting unlogged LSOG habitat in the Umpqua National Forest to the LSR land use allocation will not mitigate or resolve the severe fragmentation and habitat loss problems associated with BLM management of the "checkerboard" land use pattern in LSR 223.

Please also note that the DEIS fails to disclose whether or not the matrix land that will be converted to LSR on the Umpqua National Forest was scheduled for logging. Given survey and manage requirements and wildlife, recreation and ACS objectives, it is highly likely that the Umpqua National Forest would continue to manage the matrix LSOG as LSOG for the foreseeable future. As the DEIS repeatedly states, very little LSOG has been converted to fiber plantations since the inception of the Forest Plan. Are survey and manage species present in the matrix lands at issue? It may be that the pipeline proposal calls for logging BLM LSR habitat in a highly fragmented landscape (in which such habitat is disproportionately valuable to LSOG associated species) in return for reallocating matrix lands that would not have been logged anyway and which are located significantly away from the impacts associated with the pipeline clearcut logging on BLM lands.

Page 4-202 of the DEIS indicates that (in direct contradiction to the Forest Service proposal contained in the "Roads Route" alternative suggested in their scoping comments) the pipeline will bisect and fragment habitat across the entirety of LSR 227 managed by the Rogue River-Siskiyou National Forest while only adding an isolated stand of matrix forest to the LSR. It

CO34-176

CO34-177

CO34-178

CO34

Continued, page 105 of 138

CO34-176

The mitigation planned for LSRs is discussed in the DEIS in sections 2.1.4, 4.1.3.5, 4.1.3.6, 4.1.3.7 and in Appendix F and H of the DEIS. In discussing the proposed mitigation actions of the BLM and Forest Service the DEIS on page 4-164 states, "The mitigation actions are described in section 2.1.4 and appendix F of this DEIS." Appendix F is also referenced numerous times throughout the DEIS in relation to the proposed mitigation actions of the BLM and Forest Service (e.g. see Table 2.1.7-1 of the DEIS). Although these mitigation actions have been included in Appendix O of the BA they are also included in Appendix F of the DEIS.

CO34-177

Mitigation would not change the checkerboard ownership of the BLM and private lands or the past timber harvest (private and federal) that has occurred in this area. The BLM lands in the area the proposed pipeline would impact LSR 223 are already all designated as LSR. Therefore any reallocation of BLM lands from Matrix to LSR would not occur in this area of the proposed pipeline. Mitigation actions that look at the site scale as well as the LSR scale are consistent with direction previously issued by the Regional Interagency Executive Committee of the NWFP when considering new developments in LSR. Additional discussion of this proposed reallocation has been included in the FEIS. The matrix lands proposed for reallocation are not currently planned for harvest as it would be inconsistent for the Forest Service to propose timber harvest and reallocation to LSR at the same time. The Umpqua NF is presently managing these acres as matrix. When and if these acres would be proposed for timber harvest or other management activities consistent with present LMP designations is speculative.

CO34-178

The proposed route does not contradict with the "roads route" proposed by the Forest Service. It is important to note that the original May 2006 route proposed by the applicant was modified to incorporate as much of the proposed Forest Service "roads route" as was feasible. As a result the proposed route in the 2014 DEIS incorporates recommendations of the "roads route," such as co-locating the pipeline within existing forest road corridors and within regeneration harvested areas, to minimize impacts to mature forests in LSR 227. After working with the applicant to create the modified route the Forest Service determined that neither the May 2006 route, nor the USFS "roads route" would be environmentally preferable to the modified proposed route. Additional discussion has been added in the FEIS to clarify this. There are also numerous past timber harvest areas in this location and as such there is little existing interior forest habitat in this portion of the LSR (e.g. see page 7 of Appendix R2 of the DEIS). The matrix lands proposed for reallocation are adjacent to the LSR and are not currently planned for harvest. The Rogue River NF is presently managing these acres as matrix. When and if these acres would be proposed for timber harvest or other management activities consistent with present LMP designations is speculative. Surveys for survey and manage species are required prior to ground disturbing activities. The proposed reallocations of matrix land to LSR are not ground disturbing activities and therefore surveys for survey and manage species have not been conducted for the proposed reallocations. A large percentage of the impacts discussed on page 4-204 of the DEIS (page 2-206 does not exist in the DEIS) are "indirect impacts" where LSOG habitat would not be removed by the project. Also only a small portion of the forest habitat that would be removed in LSR is LSOG habitat. The DEIS discloses that for every acre of LSOG habitat within LSRs that would be removed by the project, approximately 10 acres of LSOG habitat would be added to the LSR system (see Table 4.1.3.7-12 of the DEIS). Also in addition to the reallocation of matrix to LSR there is also a compensatory mitigation plan developed by the BLM and Forest Service that has been designed to assure the objectives of the LSRs would still be met (see DEIS section 2.1.4 and Appendix F).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

appears that interior forest habitat essential to the function of LSR 227 will be removed while an isolated parcel well to the north of the bulk of the LSR habitat will be reallocated from matrix to LSR. Page 4-206 of the DEIS acknowledges that logging associated with the pipeline "would create edge impacts that may affect interior stand microclimates and cause habitat fragmentation within LSR 227 that cannot be avoided."

CO34-178
continued

The DEIS fails to disclose the likelihood of the LSOG LSR 227 mitigation matrix lands reallocation stands being logged if the project does not occur. The Rogue River-Siskiyou National Forest simply does not log existing LSOG habitat. Are Survey and Manage species present on the matrix lands that would preclude there logging regardless of the project?

Page 2-206 of the DEIS indicates that a total of 822 acres in LSR 227 will be negatively impacted by the pipeline project. Yet only 512 acres of matrix is proposed for reallocation to the LSR land use allocation. Similarly, 435 acres of LSOG in the LSR will be negatively impacted but only 333 acres of LSOG located in the matrix (not all of which would be logged under the NW Forest Plan) is proposed for protection as mitigation. These figures make clear that the impacts of the project (including the proposed mitigation) are negative (and not neutral or beneficial) to the achievement of LSR goals and objectives and violate the NWFP.

Please further note that page 4-204 of the DEIS indicates that additional undisclosed LSR acres will be logged and additional forest fragmentation will occur in order to widen existing logging roads in the LSR to facilitate the use of oversized trucks and loads associated with the pipeline project. The impacts, location, and acreage of this proposed additional logging are not analyzed or disclosed in the DEIS.

CO34-179

The DEIS relies heavily on hypothetical road decommissioning to mitigate for significant new LSR forest fragmentation proposed in the Little Butte Creek Tier 1 Key Watershed. Please note that it has long been the policy of the Forest Service to reduce road density in LSRs and Key Watersheds and that a travel management planning effort is currently underway that will foreseeably further reduce the size of the Forest Service transportation system in Little Butte Creek. The DEIS fails to analyze or disclose how many of the roads proposed for decommissioning (as project mitigation) would have been decommissioned anyway. The DEIS ignores that over time the Forest Service would have conducted road decommissioning in the LSR/Key Watershed as recommended by the NW Forest Plan, the Watershed Analysis and the Travel Rule.

CO34-180

Please note that page 4-229 of the DEIS indicates that "Adverse impacts [from pipeline clearcutting] would occur at the time of construction whereas the beneficial effects of edge reduction would occur over several decades." In other words, the project would result in immediate, significant, additional fragmentation and harm to LSR habitat objectives in return for speculative, future road decommissioning activities that likely would have occurred anyway. Similarly, the project will result in immediate, significant and additional loss of forest habitat located in LSRs in return for the "protection" of some matrix forest stands in which logging might never have occurred anyway due to wildlife, social and watershed objectives.

CO34-181

106

CO34 Continued, page 106 of 138

CO34-179 The DEIS discloses on page 4-204 that the additional clearing for road reconstruction within LSR 227 would be approximately 4 acres and occur within the existing road clearing limits to the extent possible. The discussion of impacts on LSOG habitat in the DEIS includes impacts from road construction/reconstruction (see sections 4.6 and 4.7 of the DEIS).

CO34-180 Road decommissioning work is implemented by the agencies as funding is available. The CMP would make possible road decommissioning identified in watershed analyses and in LSR assessments at a level above our existing program capacity. If the PCGP project is approved and constructed, funding would be provided by the applicant for the proposed mitigations. While the proposed projects are consistent with the recommendations in the watershed analyses and LSR Assessments, it would be speculative to conclude that they would occur without specific funding provided by the applicant.

CO34-181 Road decommissioning work is implemented by the agencies as funding is available. The CMP would make possible road decommissioning identified in watershed analyses and in LSR assessments at a level above our existing program capacity. If the PCGP project is approved and constructed, funding would be provided by the applicant for the proposed mitigations. Figure 4.1-40 discloses that there would be approximately 783 acres of edge effect impacts and approximately 894 acres of edge reduction mitigation in LSR 223 and 227. This however is not the only mitigation actions proposed for LSRs. Table 4.1.3.7-16 of the DEIS summarizes the offsite mitigation actions in LSRs and Table 4.1.3.7-15 summarizes the amount of LSOG habitat impacted in LSR with the amount of LSOG habitat reallocated to LSR. All of these actions combined have been designed to be neutral or beneficial to the creation and maintenance of LSOG habitat in LSR.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

Figure 4.1-40 indicates that the pipeline will result in 1,152 acres of immediate additional edge effects in LSR 223 and 227, yet only 1,041 acres of long-term (speculative) edge reduction (which may have occurred anyway) is proposed. This does not constitute a positive or neutral impact on LSR function.

CO34-181
continued

Figure 4.1-43 directly acknowledges that the project will have negative (rather than neutral or beneficial) impacts to LSOG located in LSRs in both the Oregon Coast and Oregon Western Cascade provinces in violation of the NW Forest Plan.

CO34-182

Page 2-53 of the DEIS indicates that project planners intend to mitigate the impacts of pipeline associated logging through LSRs by conducting up to 6,000 acres of additional logging. The DEIS fails to disclose any of the impacts of logging, yarding or log hauling associated with the proposed additional logging activities. Page 2-53 claims that "mostly smaller trees would be removed" but "smaller trees" are not defined, the term "mostly" is ambiguous, and the number of large trees to be removed to accomplish stand objectives or to facilitate yarding or landing activities is not analyzed or disclosed. Page 2-54 of the DEIS indicates that subsequent site-specific planning and analysis would demonstrate compliance of this logging with the respective LMPs despite the fact that proposed pipeline action attempts to establish precedent that the proposals of pipeline proponents can and will violate the LMPs for Federal land management.

CO34-183

5. Increased Fire Hazard in LSRs

Page 2-59 of the DEIS acknowledges that "The pipeline would create fire suppression complexity by creation of a continuous corridor of early seral plant communities." Similarly, Page 4-220 of the DEIS states that "Construction of the pipeline and associated activities would remove both mature and developing stands and increase fire suppression complexity." By converting mature forest stands into a continuous corridor of early seral plant communities the project increases fire hazard and decreases options for fire management in the LSRs. This is a direct and significant negative (as opposed to neutral or beneficial) impact on the ability of the LSR land use allocation to achieve its management objectives.

CO34-184

Rather than avoid or address the impacts of increasing fire hazard in the LSRs, the DEIS proposes "mitigation" measures that attempt to facilitate fire suppression and fire exclusion. As described on pages 4-220 and 4-221 of the DEIS these mitigation measures in Middle Fork Coquille Watershed include establishment of a fuel break, construction of heli-ponds and installation of dry hydrants all of which will be used to continue to attempt to exclude fire from BLM LSRs.

It is widely recognized that fire exclusion and fire suppression in fire dependent forests (such as those in southwest Oregon) increases fire hazard and fire severity over time due to changes in forest species and seral composition. Attached to these comments is an article entitled Ecology and Management of Fire-prone Forests of the Western United States that we hereby submit to the record for this project.

By creating a continuous corridor of early seral vegetation and by facilitating additional fire exclusion and fire suppression through LSRs the pipeline project will increase fire hazard and

107

CO34 Continued, page 107 of 138

CO34-182 The EIS appropriately discloses discrete impacts and appropriately evaluates the overall impacts to the LSR system. A large percentage of the impacts displayed in Figure 4.1-43 are "indirect effects" where LSOG habitat would not be removed by the project. Figure 4.1-43 displays that for every acre of LSOG habitat within LSRs in the Oregon Coast and Oregon Western Cascade Provinces that would be removed by the project, approximately 6 acres of LSOG habitat would be added to the LSR system (see Table 4.1.3.7-15 of the DEIS). Also in addition to the reallocation of matrix to LSR there is also a compensatory mitigation plan developed by the BLM and Forest Service that has been designed to assure the objectives of the LSRs would still be met (see section 2.1.4 and Appendix F of the DEIS).

CO34-183 Page 2-53 of the DEIS discloses that approximately 6,600 acres of integrated fuels reduction in overstocked stands is being proposed by the BLM/Forest Service. This action is being proposed to reduce the risk of stand-replacement fire and possible losses of LSOG forest/ NSO habitat in an area that has a history of lightning fires. This activity is further discussed in Table 2.1.4-1 including the expected environmental consequences. The purpose of the proposed fuel reduction activities is discussed on pages 2-51 through 2-54 and in Table 2.1.4-1 of the DEIS. Subsequent site-specific environmental analysis would further define the details of the proposals. Amendments to the LMPs have not been proposed for the mitigation actions outlined in section 2.1.4 of the DEIS. The mitigation actions are being designed to be consistent with the LMPs as well as the recommendations in watershed assessments and the LSR assessments. With the proposed amendments the PCGP project would not violate the LMPs.

CO34-184 The analysis on page 2-59 also acknowledges that the proposed pipeline corridor would provide a fuel break. This portion of the DEIS along with section 4.1.3.6 and Appendix F discusses the rationale for the proposed pump chances and heli-ponds and the potential benefit to LSRs. Additional discussion of the proposed mitigation related to fire risk has been added in the FEIS.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

may contribute to high severity wildfire effects that inhibit the retention of late-successional habitat characteristics.

6. A Reasonable Action Alternative For LSR Management Should Have Been Developed.

Project proponents and project planners have refused to develop and consider action alternatives that would be consistent with the respective LMPs in the project area. Please note that page 3-52 of the DEIS indicates that representatives of the Rogue River-Siskiyou National Forest proposed a "Roads Route Alternative" to project planners in which pipeline construction would have paralleled existing roads and would have avoiding logging, clearing and construction activities within the Late Successional Reserve 227. FERC and the public cannot contrast this reasonable action alternative with the proposed action because project proponents and project planners refused to develop the alternative for consideration in the DEIS. Hence the tradeoffs, benefits and challenges of implementing the Forest Service proposed alternative on Forest Service managed lands cannot be known. Please further note that the Forest Service is entitled to substantial legal deference in questions of professional judgment concerning management of Forest Service lands and resources. The preferences of project proponents to construct the pipeline directly through Federal LSRs do not relieve FERC of its duty to develop, consider and contrast reasonable alternatives to the proposed action as suggested by the Forest Service during project scoping.

CO34-185

7. The Project Will Violate the Aquatic Conservation Strategy

Page 4-77 of the DEIS indicates that the project will remove (clearcut) 91 acres of vegetation located in riparian reserves including 32 acres of mid-seral forest and 32 acres of LSOG forest stands. The impacts of associated edge effects and yarding activities on riparian reserve management objectives is not disclosed or analyzed.

At 4-238 and 4-239 the DEIS indicates that the project will mitigate harm to ACS and riparian forest resources through road decommissioning, road resurfacing, instream LWD placement and culvert replacement. All of these activities are already occurring on Federal lands within the project area, especially in Key Watersheds and LSRs. The Rogue River-Siskiyou, Umpqua and Winema National Forests have robust track records and foreseeable proposals for all four of these restoration/mitigation strategies. The Medford, Roseburg and Coos Bay BLM Districts also regularly propose and implement these activities. Road decommissioning, road resurfacing, instream LWD placement and culvert replacement would all occur regardless of the Pacific Connector project.

Implementation of the action proposed in the DEIS will violate the LRMPs regarding riparian management and directly harm ACS management objectives while relying on mitigation measures that are common and ongoing regardless of whether the pipeline is constructed or not.

K. Compliance with the Oregon and California Lands Act.

CO34 Continued, page 108 of 138

CO34-185 Alternatives are discussed in Chapter 3. An all highway route was considered, see Figure 3.4-1 and section 3.4.3.2. A route built adjacent to roads in the national forest, even if feasible, would involve cutting and clearing more forest than the proposed route because the roads wind and turn following topography. Often they are midslope roads, which would result in greater disturbance and well as greater risk of pipeline failure.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The Pacific Connector pipeline will cross 40 miles of BLM lands. DEIS, 4-21. On those lands, the Oregon and California Lands Act (O&C Act) proscribes the purposes for which those lands may be utilized. The O&C Act states that the O&C lands

...shall be managed...for permanent forest production, and the timber thereon shall be sold, cut, and removed in conformity with the principal [principle] of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the economic stability of local communities and industries, and providing recreational facilities: Provided, That nothing herein shall be construed to interfere with the use and development of power sites as may be authorized by law.

43 U.S.C. § 1181a. The case law interpreting the O&C Act indicates that the O&C lands must be managed for "permanent forest production." *Headwaters v. BLM*, 914 F.2d 1174 (9th Cir. 1990). In *Headwaters*, the Ninth Circuit held that "There is no indication that Congress intended 'forest' to mean anything beyond an aggregation of timber resources." *Id.* at 1183.

The DEIS acknowledges that the pipeline right-of-way will be managed to be free of vegetation over a 15 feet in height, which will preclude the reforestation of the cleared right-of-way. DEIS, 4-22, 4-77. The right-of-way will no longer produce trees for "forest production" as required by the O&C Act. Consequently, these acres will be permanently lost to forest production, in violation of the Act. 43 U.S.C. § 1181a; 5 U.S.C. § 706(2)(A).

L. Visual Impacts.

Visual Resources on BLM Lands – KOP-P2 Trail Post Office (Near MP 123.0) is essentially the view from the Crater Lake Highway (62). The simulated view of the near ridgeline from the heavily traveled Highway 62 is dramatic and will not meet the Scenic Integrity Objective (appears unaltered) or the BLM Visual Resource Management Class II definition (The nature of this class is to retain the existing character of the landscape). The DEIS acknowledges (4-782) that "the pipeline does not meet VRM Class II objectives in the short term (less than 5 years)" at this location and notes that mitigation developed in the Aesthetics Management Plan would help the area reach VRM Class II objectives in the long term (5 to 10 years). The purpose of having a VRM and Scenery Integrity Objective is to retain visual impact. The Aesthetics Management Plan must specifically address the steps that will be taken to restore the view at this location in the short term.

IV. DIRECT CLIMATE IMPACTS.

The DEIS quantifies the amount of greenhouse gases that will be directly emitted by the project: 2,165,897 tons of CO₂e per year. DEIS 4-894 to 4-895. As we explain below, this is a small fraction of the total greenhouse gas emissions that will be caused by the project, because of the significant "upstream" emissions associated with supplying natural gas to the project as well as the emissions resulting from end use of exported gas. Even for the direct greenhouse gas emissions acknowledged in the DEIS, however, the DEIS fails to take the hard look NEPA requires.

CO34 Continued, page 109 of 138

CO34-186 To clarify, 30 feet of the operational right of way (i.e., after construction were complete) would be maintained in vegetation under 6 feet in height. The remainder of the "cleared right-of-way" would be revegetated without height restriction. The issuance of right-of-way grants under the Mineral Leasing Act is also an authorized use of BLM-managed lands.

CO34-187 The Aesthetics Management Plan specifically addresses the steps needed to address meeting the VRM class objectives at KOP-P2 within 5-10 years and acknowledges the objectives would not be met in less than five years (see section 4.8 of the DEIS and attachment 1 to the 2013 POD). Appendix R-1 and R-8 to the DEIS also document the analytical process and line officer finding that the project as described in the DEIS would be consistent with the LMP for the BLM's Medford District.

CO34-186

CO34-187

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

As a threshold issue, even the DEIS's 2,165,897 tons of CO₂e figure is improperly calculated, because the DEIS understates methane's impact on the climate. The DEIS GHG emissions estimates rely on a 100-year GWP of 21 for methane (i.e.; 21 times more potent than carbon dioxide) from the IPCC Second Assessment, which was released in 1995.²⁶ Yet the DEIS acknowledges that GWP "...best estimates have been updated over time."²⁷ The DEIS acknowledges that in 2013 the EPA updated the 100-year GWP used for GHG reporting of methane to 25 based on the IPCC Fourth Assessment (2007), and that the IPCC Fifth Assessment (2013), which is based on the most current science, further raised the estimate of methane's potency. As we explained in comments on DOE's Environmental Addendum regarding LNG exports, the current scientific consensus is that fossil methane has a 100-year global warming potential of 36 when climate feedbacks are included (as they should be). NEPA requires FERC to acknowledge this recent science. Although the EPA uses the 2007 estimate for purposes of the reporting rule, nothing in that rule or EPA's discussion thereof provides any justification for FERC to ignore the current scientific consensus regarding methane's impacts. Nor has FERC provided an adequate justification for using the 100 year global warming potential instead of the 20 year potential.

CO34-188

More fundamentally, NEPA requires more than merely identifying the tonnage of GHGs that will be emitted. NEPA requires discussion of the "ecological . . . , aesthetic, historic, cultural, economic, social, [and] health" effects of proposed actions. 40 C.F.R. § 1508.8. The DEIS does not attempt any analysis of greenhouse gas emissions' impacts on these issues, instead concluding that "[a]lthough the Project emissions would contribute to the overall amount of atmospheric GHG, it is impossible to quantify the impacts that the emissions of GHG from construction and operation of the Project would have on climate change." DEIS 4-1043. NEPA regulations provide that where "information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known," the agency must include, *inter alia*, "the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community." 40 C.F.R. § 1502.22(b)(4). In addition, FERC has an affirmative obligation to "identify and develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations." 42 U.S.C. § 4332(2)(B).

CO34-189

Here, there are at least two tools available to ensure necessary context for and consideration of the projects' greenhouse gas emissions: estimates of the "social cost" of greenhouse gas emissions, and assessment of the consistency of project emissions with federal emission reduction targets.

One way to illustrate the impact of greenhouse gas emissions is to use estimates that have monetized the harm done by each ton of greenhouse gases emitted. The 2,165,897 tons per year of CO₂e emissions identified by the DEIS are composed primarily of carbon dioxide. The federal Interagency Working Group on Social Cost of Carbon estimates "the monetized damages associated with" emission of a ton of carbon dioxide. EPA, which played a central role in

CO34-190

²⁶ https://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml

²⁷ DEIS at 4-894

CO34 Continued, page 110 of 138

- CO34-188 The discussion related to the quantification of impacts of methane relative to CO₂ has been expanded.
- CO34-189 See the response to CO10-3.
- CO34-190 CEQ's draft guidance states that "Monetizing costs and benefits is appropriate in some, but not all cases....A monetary cost-benefit analysis need not and should not be used in weighing the merits and drawbacks of the alternatives when important qualitative considerations are being considered." FERC does not agree it is important to monetize costs and benefits, in part because it cannot be definitively be stated whether the project will increase global GHG emissions or decrease them.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 111 of 138

CO34-191 See the response to CO34-190

developing the social cost of carbon estimate, recently reiterated that this social cost of carbon estimate is an appropriate tool for assessing impacts of greenhouse gas emissions in NEPA reviews.²⁸ CEQ's recent draft guidance on discussing greenhouse gas emissions specifically identifies the social cost of carbon as a tool to use to provide context for discussion of greenhouse gas emission impacts.²⁹ Use of the social cost of carbon is therefore a "generally accepted" for illustrating the impact of greenhouse gas emissions.

CO34-190
continued

The biggest flaw in the Interagency Working Group's estimate is that it is almost certainly too low. The most recent (2013) report estimates that the monetized impact of a ton of carbon dioxide emitted in 2030 (roughly the midpoint of the expected lifetime of the Jordan Cove project), amount to \$52.³⁰ This midpoint value also reflects the average impact over the lifetime of the project. Thus, under the Interagency Working Group's estimate, the monetized impact of just the greenhouse gases directly emitted by the Jordan Cove Project (i.e., those identified in the DEIS) amounts to \$109 million per year, or \$2.18 billion for the 20-year period conditionally authorized by the Department of Energy. EPA has recognized, however, that it is "very likely that [the social cost of carbon estimate] underestimates the damages" caused by carbon dioxide emissions, because "[t]he models used to develop SCC estimates . . . do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature."³¹ Sierra Club offered comments on the 2013 interagency estimate (which we incorporate by reference here) explaining that it was potentially orders of magnitude too low.³² Most recently, a peer-reviewed paper published by a pair of Stanford University researchers concluded that the Interagency Working Group's estimate drastically underestimates the impacts of carbon dioxide emissions.³³ Discussing emissions in 2015, rather than 2030, one of the paper's authors explained the conclusion of the work: "We estimate that the social cost of carbon is not \$37 per ton, as previously estimated, but \$220 per ton."³⁴ Thus, while there is some uncertainty as to the precise monetization of harm done by carbon dioxide emissions, it is clear that the value is not \$0, and cannot be ignored. See, e.g., *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1198 (9th Cir. 2008). Although NEPA does not require agencies to monetize environmental impacts in every instance, where a tool for

CO34-191

²⁸ U.S. EPA, *EPA Comment Letter on Keystone XL Project DEIS* at 2, PDF available at <http://www.epa.gov/oecaerth/keystone-xl-project-epa-comment-letter-20130056.pdf> (last visited Jan. 22, 2014).

²⁹ 79 Fed. Reg. 77802, 77827.

³⁰ Interagency Working Group on Social Cost of Carbon, United States Government, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (Nov. 2013) at 2-3 (\$52 is the value at the middle of the three discount rates presented, 3%), available at <http://www.whitehouse.gov/sites/default/files/omb/assets/inforeg/technical-update-social-cost-of-carbon-for-regulator-impact-analysis.pdf>.

³¹ See U.S. EPA, *The Social Cost of Carbon*, available at <http://www.epa.gov/climatechange/EPAactivities/economics/scr.html> (last visited Jan. 23, 2014).

³² Sierra Club, *Comments on the Interagency Working Group's (IWG) Technical Support Document: Social Cost of Carbon (SCC) for Regulatory Impact Analysis Under Executive Order 12866* (Docket Not. OMB-2013-0007-0083) (Feb. 25, 2014), available at <http://www.regulations.gov/#documentDetail;D=OMB-2013-0007-0083>.

³³ Frances C. Moore and Delavane B. Diaz, Temperature impacts on economic growth warrant stringent mitigation policy, *Nature Climate Change* (Jan. 12, 2015), DOI: 10.1037/NCLIMATE2481, available at http://www.eenews.net/assets/2015/01/13/document_cw_01.pdf.

³⁴ Ker Than, Estimated social cost of climate change not accurate, Stanford scientists say, *Stanford Report* (Jan. 12, 2015), available at <http://news.stanford.edu/news/2015/january/emissions-social-costs-011215.html>.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

monetizing the impact of carbon dioxide emissions exists, and where the agency has not identified any other way to assess the impact of those emissions, failing to use that tool violates NEPA. *Columbia Basin Land Prot. Ass'n v. Schlesinger*, 643 F.2d 585, 594 (9th Cir. 1981).

FERC must also assess "whether the emissions being discussed are consistent with" applicable "goals for GHG emission reductions."³⁵ As the DEIS recognizes, Oregon has adopted emission reduction targets.³⁶ The 2020 target is for emissions 10 percent below 1990 levels and 15 percent below 2005 levels, or roughly 50 million metric tons of CO₂e per year.³⁷ Oregon's emissions currently exceed 60 MMT per year, so achieving this target will require a reduction of more than 10 MMT.³⁸ Thus, the direct emissions from the Jordan Cove project would consume or offset more than 20% of the emission reduction Oregon is attempting to achieve. Put differently, Jordan Cove would increase statewide emissions by 3.5% when the state is endeavoring to reduce emissions by 17%. Oregon's targets for after 2020 are even more ambitious, requiring extensive further reduction. The DEIS must investigate whether adding an additional 2 MMT of year to Oregon's emission total will preclude achievement of the state's targets, and if not, explain why not.

When these tools are used to provide context regarding impacts of greenhouse gas emissions, it is clear that these impacts are significant. Impacts with a monetary value of over \$2 billion, or offsetting 20% of the emission reductions Oregon is trying to achieve, are impacts that cannot be deemed "insignificant" in any meaningful sense of the word.

V. INDIRECT EFFECTS OF INDUCED GAS PRODUCTION, GAS PRICE INCREASES, AND END USE OF LNG

NEPA requires consideration of "indirect effects," which are "caused by the action" but:

are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effect on air and water and other natural systems, including ecosystems.

40 C.F.R. § 1508.8(b).

³⁵ *Id.* at 77826.

³⁶ See <https://olis.leg.state.or.us/liz/2007R1/Downloads/MeasureDocument/HB3543>

³⁷ DEIS 4-893; See, e.g.,

<http://www.puc.state.or.us/docs/2014%20Greenhouse%20Gas%20Reduction%20Goal%20Rate%20Impact%20Report%20per%20SB%20101.pdf>.

³⁸ The DEIS only provides emission data through 2010, and only in graph form, but the 2010 total exceeds 60 MMT. DEIS 4-893. The Oregon Public Utilities Commission provides more recent data, showing an increase, rather than decrease, since 2010.

<http://www.puc.state.or.us/docs/2014%20Greenhouse%20Gas%20Reduction%20Goal%20Rate%20Impact%20Report%20per%20SB%20101.pdf> at page 7.

CO34 Continued, page 112 of 138

CO34-192 As identified, the State's GHG emissions and emissions goals are already identified in the DEIS to provide a frame of reference for the project's potential GHG emissions. While the project would emit GHGs, further analysis of the extent to which it is "consistent with" the State's goals is speculative, given that (a) actual project emissions could be substantially less than potential project emissions (and estimating the extent to which this may be so is speculative) and (b) achievement of the State's goals depend on a myriad of other factors that apply to sources completely unrelated to this project.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The Jordan Cove project will have numerous indirect and cumulative effects due to the fact that it will constitute a major new source of gas demand. Gas exported as LNG must come from somewhere. The only options are an increase in North American supply to match this new demand or a decrease in other North American consumption to free up gas that would otherwise be used elsewhere. As explained in the Energy Information Administration's January 2012 LNG Export Study and in numerous subsequent analyses, a combination of both is likely.³⁹ The predominant effect will be an increase in supply as gas producers increase output in response to new demand. The extra demand will also cause increases in domestic gas prices, which will cause some domestic consumers (primarily in the electricity generating sector) to reduce their consumption (according to EIA, primarily but not exclusively by switching to coal). Both this increase in production and this shift in the power sector will have environmental impacts. Additional environmental impacts will result from the consumption of exported LNG by end users.

These environmental impacts are all indirect effects that must be included in the NEPA analysis. As commenters explained in their prior protests, extensive Circuit Court authority explains that for this type of infrastructure project—provision of a significant new connection between sources of fossil fuel supply and demand—NEPA requires consideration of the effects of the changes in 'upstream' production and 'downstream' consumption that would indirectly result from the project. *N. Plains Resource Council v. Surface Transp. Bd.*, 668 F.3d 1067, 1081-82 (9th Cir. 2011), *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520 (8th Cir. 2003). Recently, both the Council on Environmental Quality and the Environmental Protection agency have reiterated this requirement. CEQ's Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts explicitly calls on agencies to consider both the "upstream" and "downstream" effects of projects. 79 Fed. Reg. 77802, 77826. EPA has specifically called for consideration of these projects' effects on gas production. EPA, *Scoping Comments – The Jordan Cove Energy Project LP*, FERC Dkts. PF12-7 and PF12-17, at 14 (Oct. 29, 2012). Most recently, in commenting on the analogous NEPA review of the proposed Keystone pipeline project, EPA explained how available modeling indicated that the Keystone project would likely increase tar sands oil production, that this increase would have adverse environmental impacts, and that these impacts needed to be considered in the NEPA indirect effects analysis.⁴⁰

The draft EIS's refusal to consider these effects therefore violates NEPA. As we explain below, the reasons given for excluding upstream production from analysis are contrary to the available evidence and FERC's legal obligations. Moreover, while the draft EIS states that it is uncertain whether exports will be supplied by induced gas production, the draft EIS completely fails to address the impacts of any other possible source of gas, such as gas-to-coal shifting in the electric power sector.

³⁹DOE/EI has commissioned a two part study of the economic impacts of LNG exports. Energy Information Administration, *Effect of Increased Natural Gas Exports on Domestic Energy Markets*, (2012) ("EIA Export Study"), (EIA, 2012a); NERA Economic Consulting, *Macroeconomic Impacts of LNG Exports from the United States* (2012). (NERA, 2012)

⁴⁰ EPA, Comments on Final SEIS for the Keystone XL Project (Feb. 2, 2015).

CO34 Continued, page 113 of 138

- CO34-193 See the response to IND1-3.in regard to increases in the demand for gas. See the response to IND37-4 in regard to effects on the price of gas.

CO34-193

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 114 of 138

A. Environmental Impacts of Induced Gas Production

NEPA regulations, caselaw, and CEQ guidance all demonstrate that inducement of additional gas production is the type of effect that falls within NEPA's indirect effects rubric. The draft EIS fails to justify excluding these effects from analysis.

Multiple available tools can predict the amount of additional production that will be induced by the Jordan Cove project. Central among these is EIA's National Energy Modeling System. In January of 2012 EIA, using the National Energy Modeling System, estimated that roughly 63% of exported gas will come from new production.⁴¹ The EIA study addressed both regional and technique differences in production. The National Energy Modeling System divides the continental 48 states into twelve distinct modeling regions.⁴² Similarly, EIA's 2012 study regarding the effects of LNG exports reported predicted production increases in six distinct regions.⁴³ NEMS also allows predictions regarding the type of additional production. EIA's 2012 export study further identified the share of additional gas production attributable to each type of production (shale gas, tight sands, coalbed methane, etc.).⁴⁴

More recent studies, using different tools have estimated an even higher increase in production in response to exports: for example, ICF International estimates that between 80 and 88% of export supply will come from additional gas production.⁴⁵ ICF provides a state-by-state forecast as to increased production volumes.⁴⁶ Similarly, Deloitte Marketpoint has estimated the extent to which gas production would increase in response to LNG exports.⁴⁷

The Department of Energy has found that both the EIA and Deloitte models are sufficiently reliable to be used in predicting the nationwide effects of gas infrastructure changes.⁴⁸ In discussing the Jordan Cove project, DOE "observe[d] that more natural gas is likely to be

⁴¹ EIA Export Study, at 10.

⁴² EIA, Model Documentation Report: National Gas Transmission Module of the National Energy Modeling System, p.25 (July 2013), available at [http://www.eia.gov/forecasts/aeo/news/documentation/ngtmdm/pdf/m062\(2013\).pdf](http://www.eia.gov/forecasts/aeo/news/documentation/ngtmdm/pdf/m062(2013).pdf)

⁴³ EIA, Lower 48 Natural Gas Production and Wellhead Prices by Supply Region, available at <http://www.eia.gov/oiaf/aeo/tablebrowser/#release=FE2011&subject=16-FE2011&table=72-FE2011®ion=0-0&cases=rhexslw-d090911a,rhexcpd-d090911a,rhexslw-d090911a,rhexcpd-d090911a,ref2011fe-d020911a>.

⁴⁴ EIA Export Study at 6, 10.

⁴⁵ ICF International, *U.S. LNG Exports: State-Level Impacts on Energy Markets and the Economy*, at 14 (November 2013), available at <http://www.api.org/~media/files/policy/lng-exports/api-state-level-lng-export-report-by-icf.pdf>. (International, 2013)

⁴⁶ *Id.* at 15.

⁴⁷ See *Sierra Club Protest* at 13-14 and Deloitte MarketPoint, Analysis of Economic Impact of LNG Exports from the United States (Deloitte, 2013); see also Deloitte Marketpoint, Made in America: The Economic Impact of LNG Exports from the United States (2011), [http://www.deloitte.com/assets/Dcom-UnitedStates/Local percent20Assets/Documents/ Energy_us_er/us_er_MadeinAmerica_LNGPaper_122011.pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/Energy_us_er/us_er_MadeinAmerica_LNGPaper_122011.pdf); Deloitte, Natural Gas Models, http://www.deloitte.com/view/en_US/us/Industries/power-utilities/deloitte-center-for-energy-solutions-power-utilities/marketpoint-home/marketpoint-data-models/b2964d1814549210VgnVCM200000bb42f00aRCRD.htm.

⁴⁸ To our knowledge, DOE has not expressed an opinion regarding the validity of ICF's model.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 115 of 138

produced domestically if LNG exports are authorized than if they are prohibited.”⁴⁹ More specifically, DOE’s conditional authorization of the Jordan Cove project endorsed the EIA study, and its predictions of production increases in response to exports, as “fundamentally sound,” and DOE relied on EIA’s predictions of market response to exports—including increased production—to conclude that exports would not cause price increases inconsistent with the public interest.⁵⁰ DOE’s Environmental Addendum on LNG exports explicitly endorses EIA’s prediction of the extent to which production will increase if exports occur.⁵¹ Separately, DOE has found Deloitte’s North American Integrated Model sufficiently reliable to provide useful predictions of how gas production and pipeline transportation will respond to increased electric power sector demand as a result of greenhouse gas regulation.⁵² Deloitte’s model in particular is a *North American* model, which includes supply, transportation, and demand in Canada as well as the United States.⁵³

In light of these tools, FERC cannot conclude that increased gas production “is not a ‘reasonably foreseeable’ indirect effect of the Project.” DEIS at 1-21. The fact that “other factors . . . such as regional domestic market demands, permitting for new gas wells, or technologies and efficiencies in exploration, may also influence production,” *id.*, does not change the fact that, as DOE has recognized, “more natural gas is likely to be produced domestically if LNG exports are authorized than if they are prohibited,” and that available tools can model the likely effect of LNG exports. Forecasts produced with these models contain some inherent uncertainty, but “[r]easonable forecasting and speculation” are inherent in the NEPA process, *Scientists’ Inst. for Pub. Info., Inc. v. Atomic Energy Comm’n*, 481 F.2d 1079, 1092 (D.C. Cir. 1973), and DOE has found these models to be adequate to inform evaluation of agency decisionmaking. Moreover, although the forecasts discussed above generally concern scenarios in which gas is exported from the Gulf of Mexico, the underlying tools are capable of modeling the effects of exports from the Pacific Northwest.

This additional gas production will have significant environmental impacts that must be discussed in FERC’s NEPA review. One impact of this additional production will be significant greenhouse gas emissions. In discussing the project’s indirect effects related to increased gas production, FERC must quantify the greenhouse gases emitted by this production. As explained by DOE’s Environmental Addendum regarding LNG exports, and in the accompanying National Energy Technology Lab reports, natural gas production emits significant volumes of methane and other greenhouse gases.

⁴⁹ DOE, Conditional Authorization of Jordan Cove, DOE/FE Order No. 3413, Docket 12-32-LNG, at 99 (March 25, 2014).

⁵⁰ DOE, Conditional Authorization of Jordan Cove, DOE/FE Order No. 3413, Docket 12-32-LNG, at 141 (March 25, 2014).

⁵¹ DOE Addendum at 1, 4-5.

⁵² DOE, *Natural Gas Infrastructure Implications of Increased Demand from the Electric Power Sector* (Feb. 2015), available at http://energy.gov/sites/prod/files/2015/02/f19/DOE%20Report%20Natural%20Gas%20Infrastructure%20V_02-02.pdf (DOE, 2015).

⁵³ Deloitte MarketPoint, Deloitte MarketPoint, 2011.

http://www.deloitte.com/assets/DcomUnitedStates/Local%20Assets/Documents/us_er_marketpoint_marketbuilder011411.PDF.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 116 of 138

NETL concluded that U.S. gas extraction, processing, and pipeline transmission of 1 bcf of gas emitted roughly 14,000 metric tons of carbon dioxide equivalent, using a 100-year time horizon to convert methane to CO₂e.⁵⁴ As we explained in comments on the DOE Environmental Addendum and NETL report (comments which we incorporate herein by reference), this estimate is almost certainly far too low, and it is more appropriate to use the 20-year GWP for methane. Nonetheless, we use this estimate for illustration here. If, as EIA predicts for Gulf Coast export projects, at least 63% of the 0.8 bcf/d of gas exported by Jordan Cove is sourced from new production, then the producing, processing, and transportation of this additional 0.5 bcf/d of gas will emit 2.6 million metric tons of CO₂e per year.⁵⁵

In addition to quantifying greenhouse gas emissions that will be caused by induced gas production, FERC must, as discussed above, assess the impact of these emissions. One way to do so is to use the social cost of greenhouse gases. The social cost of carbon, discussed above, provides one tool. Although a comprehensive estimate of the social cost of methane has not yet been developed, a peer-reviewed analysis by EPA economists recently estimated the social cost of a short ton of methane emitted in 2015 at \$880.⁵⁶ This figure was derived using the same methodology used for the estimates of the social cost of carbon. Subsequent research indicates that this estimate is also too low. Since the social cost of methane paper's publication, two inputs to that study—estimates of methane's global warming potential and the 2010 estimate of the social cost of carbon—have been revised dramatically upward. The social cost of methane study used the IPCC Fourth Assessment Report's estimates of methane's global warming potential,⁵⁷ but the IPCC Fifth Assessment Report increased the estimate of methane's global warming potential by 21% to 44%. The social cost of methane analysis also used an older, 2010 estimate of the social cost of carbon: the 2013 study discussed above increased estimates by 50%.⁵⁸ As noted above, even this revised figure is too low. For these reasons, the true social cost of methane certainly exceeds \$880 per short ton.

⁵⁴ NETL, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States, p. 11 (figure 6-3) (May 29, 2014) (100 kg CO₂e per MWh equivalent). NETL's calculations assume a natural gas fired power plant efficiency of 46.4%. *Id.* at 4. One cubic foot of natural gas provides 1,025 Btu, and 1 kilowatthour is equivalent to 3,412 Btu, http://www.eia.gov/EnergyExplained/page=about_btu, so under this assumed efficiency, one bcf of gas generates 139,390 MWh of electricity.

⁵⁵ We emphasize that this represents only a small fraction of the GHG emissions associated with the project. This estimate only considers a portion of the emissions associated with only 63% of the proposed export volume—consideration of the entire gas lifecycle, and of the provision of gas for the remainder of the export volume, drastically increases the total greenhouse gas impact of the project.

⁵⁶ See Marten, A.L., and Newbold, S.C., *Estimating the social cost of non-CO₂ GHG emissions: Methane and nitrous oxide*, 51 Energy Policy 957 (2012). As with the social cost of carbon, this estimate uses a 3% discount rate. (Marten & Newbold, 2012)

⁵⁷ *Id.* at 16.

⁵⁸ Compare *id.* at 13 (citing Interagency Working Group on Social Cost of Carbon, *Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866* (Feb. 2010)), available at <http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf>), with the 2013 update to this document, *supra* n.62, at 8. Under the middle 3% discount rate, the 2013 study's estimate of the social cost of a ton of carbon emitted in 2010 is 50% higher than the 2010 study's estimates, and the 2013 study's estimates increase by even greater percentages for subsequent years.

Appendix W – Comments on the Draft EIS and Responses

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 118 of 138

development activities: drilling, production, storage, transport, and treating.”⁶⁴ In the winter of 2011, the residents of Sublette County suffered thirteen days with ozone concentrations considered “unhealthy” under EPA’s current air-quality index, including days when the ozone pollution levels exceeded the worst days of smog pollution in Los Angeles.⁶⁵ In 2013, a Wyoming Department of Health study linked elevated levels of ozone pollution to increased visits at two local health clinics for respiratory-related complaints.⁶⁶ In the past, residents have faced repeated warnings regarding elevated ozone levels and the resulting risks of going outside⁶⁷ and WDEQ has drafted a plan, which includes weather forecasting, public updates and short-term ozone emission reduction measures, in anticipation of elevated ozone levels in 2014.⁶⁸

Gas production is causing ozone problems in other Rocky Mountain states as well. In recent years Northeastern Utah’s Uintah Basin has experienced severe ozone pollution. In the winter of 2012 to 2013, this region suffered over fifty days where air quality monitors measured ozone in excess of federal standards and some days where ozone levels were almost twice the federal standard.⁶⁹ The Utah Department of Environmental Quality has determined that “Oil and gas operations were responsible for 98-99 percent of volatile organic compound (VOC) emissions and 57-61 percent of nitrogen oxide (NOx) emissions,” the primary chemical contributors to ozone formation.⁷⁰ The Bureau of Land Management (BLM) has similarly identified the multitude of oil and gas wells in the region as the primary cause of the ozone pollution.⁷¹

Natural gas production induced by the Jordan Cove project will emit ozone precursors that exacerbate this pollution. Ozone is largely a regional problem, and is primarily addressed at the

⁶⁴ Wyoming Department of Environmental Quality, Technical Support Document I for Recommended 8-hour Ozone Designation of the Upper Green River Basin (March 26, 2009) at viii, available at http://deq.state.wy.us/out/downloads/Ozone%20TSD_final_rev%203-30-09_1.pdf, (WDEQ, 2009).

⁶⁵ EPA, *Daily Ozone AQI Levels in 2011 for Sublette County, Wyoming*, available at http://www.epa.gov/cgi-bin/broker?msaorcountyName=countycode&msaorcountyValue=56035&poll=44201&county=56035&msa=1&sy=2011&flag=Y&_debug=2&_service=data&_program=dataprog.trend.tile.dn.sas, (EPA, 2009a); see also Wendy Koch, *Wyoming’s Smog Exceeds Los Angeles’ Due to Gas Drilling*, USA Today, available at <http://content.usatoday.com/communities/greenhouse/post/2011/03/wyomings-smog-exceeds-los-angeles-due-to-gas-drilling/1>, (Koch, 2011).

⁶⁶ State of Wyoming, Department of Health, *Associations of Short-Term Exposure to Ozone and Respiratory Outpatient Clinic Visits — Sublette County, Wyoming, 2008–2011* (Mar. 1, 2013) at 3, available at <http://www.health.wyo.gov/phsd/ehi/index.html>, (WDEQ, 2013).

⁶⁷ See, e.g., 2011 DEQ Ozone Advisories, Pinedale Online! (Mar. 17, 2011),

<http://www.pinedaleonline.com/news/2011/03/OzoneCalendar.htm> (documenting ten ozone advisories in February and March 2011), (DEQ, 2011a); Wyoming Department of Environmental Quality, *Ozone Advisory for Monday, Feb. 28, Pinedale Online!* (Feb. 27, 2011),

<http://www.pinedaleonline.com/news/2011/02/OzoneAdvisoryforMond.htm>, (DEQ, 2011b).

⁶⁸ *DEQ plans for the 2014 winter ozone season*, Pinedale Online! (Dec. 19, 2013), available at <http://www.pinedaleonline.com/news/2013/12/DEQplansforthe2014wi.htm> (DEQ, 2013).

⁶⁹ See, e.g., Utah Dept. of Environmental Quality, *Utah’s Environment 2013: Planning and Analysis: Uintah Basin Ozone Study* (updated Jan. 17, 2014), available at <http://www.deq.utah.gov/envrpt/Planning/s12.htm> (UDEQ, 2014a).

⁷⁰ Utah Dept. of Environmental Quality, *Uintah Basin: Ozone in the Uintah Basin* (Updated Jan. 28, 2014), available at <http://www.deq.utah.gov/locations/uintahbasin/ozone.htm>, (UDEQ, 2014b).

⁷¹ BLM, *GASCO Energy Inc. Uintah Basin Natural Gas Development Draft Environmental Impact Statement* (“GASCO DEIS”), at 3-13, available at http://www.blm.gov/ut/st/enfo/vernal/planning/nepa/gasco_energy_eis.html, (BLM, 2010).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 119 of 138

state or regional level in other contexts.⁷² Thus, once FERC uses the above modeling tools to determine the amount of gas production that will potentially be added in a play or region, several tools allow FERC to predict the amount of ozone precursors that will be emitted by that regional production. Sierra Club illustrated one such method in its protest: using estimates of methane leak rates as a surrogate for the amount of raw natural gas that leaks, together with EPA estimates of the amount of VOC contained in natural gas, Sierra Club provided estimates of the amount of VOCs that would be emitted by production induced by Jordan Cove's exports.⁷³ NETL provides another method of estimating these impacts, illustrated by NETL's bottom-up estimate of NOx emissions.⁷⁴ NETL estimates that the cradle to transmission NOx emissions for natural gas used in combined cycle power plants are roughly 0.6 kilograms of NOx per megawatt hour generated, with roughly 0.5 kilograms specifically from production rather than transport.⁷⁵ Using NETL's assumption of a combined cycle power plant efficiency of 46% and EIA's estimate of a natural gas heat content of 1025 British thermal units per cubic foot,⁷⁶ NETL indicates that production and transmission of natural gas emits 87 metric tons of NOx per bcf of gas. Thus, once FERC determines the amount of additional production that would occur in the Rocky Mountain region, for example, FERC can estimate the amount of VOC and NOx emissions that would be emitted by this production in that region. This emissions estimate would provide a basis for meaningful discussion regarding impacts on regional ozone levels.

Additional gas production induced by the Projects will have numerous additional harmful impacts, as discussed in the protests previously filed in this docket, DOE's Environmental Addendum regarding LNG exports, and the undersigned's comments on the DOE addendum. FERC must also consider these additional impacts as part of its hard look at the indirect and cumulative effects of the project.

B. Indirect effects on U.S. electricity generation.

As we explained in our comment on DOE's materials regarding the environmental effects of LNG exports, a foreseeable effect of exports will be increases in greenhouse gas emissions from the U.S. electricity generation sector.⁷⁷ The extent of this impact is likely to be inversely correlated with the effects of induced production: if gas doesn't come from production that would not otherwise occur, then it must come from displacement of demand that would otherwise consume that gas. EIA's 2012 export study suggests that when the market "frees" gas for export by causing electricity producers to switch from gas to coal, this has significantly higher climate impact than when the market provides gas for export by increasing gas production.

CO34-194

CO34-194 We see no evidence that natural gas would become scarce due to the amount the applicants propose to export; therefore, we see no reason to assume that the project would result in an increase in the amount of coal being burned.

C. Impacts from other slices of the LNG lifecycle.

⁷² See, e.g., EPA, Cross-State Air Pollution Rule (CSAPR), <http://www.epa.gov/crossstateairrule/>.

⁷³ Sierra Club Protest, Docket CP13-483, Submittal 20130621-5004, at 15.

⁷⁴ NETL Gas LCA at 52-54.

⁷⁵ *Id.* at Figure 4-19, "Life Cycle NOx Emissions for Natural Gas Power Using Domestic Natural Gas Mix."

⁷⁶ <http://www.eia.gov/tools/faqs/faq.cfm?id=45&t=8>

⁷⁷ Sierra Club, et al., Comments on DOE Export LCA at 4-5.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 120 of 138

In addition to the effects caused by production and liquefaction of gas for export, the export project will have environmental effects associated with the vessel transport of LNG and consumption by end users. The DEIS fleetingly acknowledges these impacts on page 4-895.

Looking at one additional segment of the lifecycle, the DEIS estimates the greenhouse gas emissions associated with combustion of gas exported by 90 1480,000 m3 tankers per year. We note that this appears to amount to 275 bcf per year of gas, less than the 292 bcf per year for which Jordan Cove has received conditional non-free trade agreement export authorization, and thus may understate the total impact of these exports.

The DEIS also offers cursory discussion of studies regarding the entire lifecycle. DEIS 4-895. The DEIS summarizes an older Oregon Department of Energy study on the lifecycle greenhouse gas emissions associated with LNG imports, which concluded that impacts “were between 6 and 12 percent higher than those associated with domestic gas sources.” We note that more recent work, which has looked at exports rather than imports, has found that LNG’s lifecycle emissions are much more than 6-12% higher than domestic pipeline gas. For example, in considering Gulf Coast exports to Asia, on the 100-year timeframe, NETL finds that steps associated with the LNG process (liquefaction, transport, and regasification) increase the lifecycle greenhouse gas emissions by 22%.⁷⁸ Similarly, recent studies have shown that LNG’s lifecycle emissions are much more than the “39 to 48 percent less than those associated with coal” estimate the DEIS takes from the 2008 ODE report. More recent work has demonstrated both that ODE underestimated the amount methane emitted from the gas production process and that the impact of each ton of methane emissions (e.g., methane’s global warming potential). We summarized the recent science regarding lifecycle impacts of natural gas in comments on the DOE Addendum, and incorporate those comments here by reference.

Finally, the DEIS repeats NETL’s comparison of the lifecycle impacts of U.S. LNG exports to China to the lifecycle impacts of Russian pipeline gas exported to China or to coal. DEIS 4-895. Providing this comparison, without more, is misleading, because it implies that if U.S. LNG is not exported, these other fossil fuels will be consumed instead. Nothing in the record indicates that this is the case. Instead, as explained in our comment on the DOE Addendum, U.S. LNG exports will increase overall energy use and displace renewables in addition to displacing use of these fossil fuels.

D. Cumulative Effects to Wildlife Species.

40 C.F.R. § 1508.7 requires the FERC to consider the cumulative impacts of the proposal. FERC’s analysis, therefore, is not limited to the region directly adjacent to the terminal and pipeline. Nor is the review limited to short-term impacts, but it must consider the long-term impacts on the estuary and the entire length of the pipeline. The terminal, along with the proposed pipeline and potential lateral pipelines, will have a tremendous adverse impact on each of the factors listed above.

⁷⁸ NETL, LNG GHG LCA, at 11 (Figure 6-3). 629 kg CO₂e per MWh for LNG, 110 kg of which are from liquefaction, tanker transport, tanker berthing/deberthing, and LNG regasification.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The FERC must adequately accord weight to important past, ongoing, and future actions that will create significant adverse impacts for local and regional ecosystems, as well as negatively affect the recovery of sensitive wildlife, fish, and their habitats. Further, the FERC must likewise accord weight to significant upstream disturbances, particularly road-building and the long-term use of access and logging roads, have and will have in National Forests. The proposed pipeline will also disturb upstream forestland; the FERC must consider the cumulative effects on headwater, riparian, and wetland areas within contemplated and reasonably foreseeable pipeline construction areas.

As part of the cumulative effects analysis, the FERC must specifically consider the project's degradation of fish habitat in light of the already tenuous state of salmon, sturgeon and groundfish in the Pacific Northwest. First, the wetland and shallow water habitat in Coos Bay has been significantly degraded over the last century. The remaining habitat, therefore, takes on added importance. The proposed massive channel deepening will fundamentally alter the Bay, further eroding and undermining the integrity of shallow water habitats. In addition, the FERC must consider the cumulative economic effect of the project on the fishing and oyster industry and communities dependent upon fishing and shellfish revenue. The direct harm to the Bay will harm the fishing and shellfish industries, as will the lack of access to traditional fishing areas. Finally, the FERC must consider the impacts of increased natural gas production that will result from this project.

CO34-195

Forests play an essential role in water purification.⁷⁹ Scientific literature clearly establishes the link between percent forest cover and water quality; for example, reductions in forest cover are directly correlated with negative changes in water chemistry, such as increased levels of nitrogen, phosphorus, sodium, chlorides, and sulfates as well as reduced levels of macroinvertebrate diversity.⁸⁰ Reducing forest cover decreases areas available for aquifer recharge, increases erosion, stormwater runoff, and flooding, and adversely affects aquatic habitats.⁸¹ Already in Pennsylvania, researchers have correlated areas of high natural gas well density with decreased water quality, as indicated by lower macroinvertebrate density and higher levels of specific conductivity and total dissolved solids.⁸²

Both deforestation and pipeline construction and operation lead to greatly increased levels of erosion, sedimentation, and stormwater runoff affecting surface water quality. Excess sedimentation is associated with a number of detrimental effects on water quality, stream morphology, and aquatic life, and has been identified by the EPA as one of the primary threats to

⁷⁹ Robert A. Smail & David J. Lewis, Forest Service, U.S. Dep't of Agric., Forest Land Conversion, Ecosystem Services, and Economic Issues for Policy: A Review 12 (2009), available at <http://www.fs.fed.us/openpace/fote/pnw-str797.pdf>

⁸⁰ Jackson, J.K. & Sweeney, B.W., "Expert Report on the Relationship Between Land Use and Stream Condition (as Measured by Water Chemistry and Aquatic Macroinvertebrates) in the Delaware River Basin," Stroud Water Research Center, Avondale, PA, available at <http://www.state.nj.us/drbc/Sweeney-Jackson.pdf>

⁸¹ State of N.J. Highlands Water Prot. and Planning Council, Ecosystem Management Technical Report 39 (2008).

⁸² Academy of Natural Sciences of Drexel University, "A Preliminary Study of the Impact of Marcellus Shale Drilling on Headwater Streams," available at <http://www.anisp.org/research/pcer/projects/marcellus-shale-prelim/index.php>

CO34 Continued, page 121 of 138

CO34-195 The shipping channel has been dredged for decades. The slip development would reduce shallow water habitat but this would be mitigated through formation of shallow water habitat in Kentuck slough (see Section 4.6.2.2 and mitigation plan). The details of the plan, measures of success, and contingencies are provided in the Compensatory Wetland Mitigation Plan, Part B: Estuarine Impacts. This plan is similar to approved by the ODSL under permit #37712-RF. There would also be mitigation for Olympic oysters potentially affected by the Project (PCGP 2015 Pacific Connector Gas Pipeline Project Wildlife Habitat Mitigation Plan).

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 122 of 138

US surface waters.⁸³ Furthermore, heavy truck traffic on rural roads, especially unpaved roads, that were not built to withstand hundreds or thousands of truck trips also leads to significant erosion and sedimentation problems.⁸⁴ The prospect of industrial equipment and trucks are required to not only construct necessary pipeline roads, but also to maintain such. Ditches and natural watercourses along rural roads are the primary pathways for the conveyance of polluted runoff bearing sediments and nutrients to streams, and increase runoff volume and energy as well, contributing to flooding.⁸⁵ In addition, access roads constructed or modified to enter gas exploration or extraction facilities contribute significantly to sedimentation and surface water quality degradation.

Pipeline construction and right-of-way maintenance creates significant land use impacts. Pipelines also create significant erosion and sedimentation problems during construction as well as over the decades-long maintenance of cleared rights-of-way. In joining well pads to transmission infrastructure, a single gathering line may cross numerous streams and rivers, especially in states such as Pennsylvania with a high density of stream mileage per unit of land. Stream and wetland pipeline crossings cause erosion and sedimentation whether implemented through dry ditch or wet ditch crossings.⁸⁶ Though erosion and sediment control permits may be required for stream crossings—indeed, in practice permit requirements are routinely violated.⁸⁷ Both dry and wet ditch crossings necessitate the clearing of area stream banks. Because riparian vegetation functions as a natural barrier along the stream edge, both removing sediment and other pollutants from surface runoff and stabilizing stream banks,⁸⁸ its clearing necessarily increases a stream's susceptibility to erosion events. Cumulatively, the construction of numerous crossings across a single watercourse may significantly degrade the quality and flow rate of the water body.⁸⁹ Erosion and sedimentation problems are often exacerbated by the staging of construction, during which soils are exposed for long periods and over long distances by clearing, grading, and trench cutting before final pipeline installation and revegetation.⁹⁰

⁸³ Entrekin, S. et al., "Rapid expansion of natural gas development poses a threat to surface waters," *Frontiers in Ecology and Environment* 2011, 9(9), 503-11 (Oct. 6, 2011), at 507, 509, available at <http://www.esajournals.org/doi/abs/10.1890/116053>

⁸⁴ See C.J. Randall, *Hammer Down: A Guide to Protecting Local Roads Impacted by the Marcellus Shale* (Dec. 2010), available at http://www.greenchoices.cornell.edu/downloads/development/marcellus/Marcellus_Randall.pdf

⁸⁵ Yen Hoang & Keith Porter, *Stormwater Management in the Rural New York Headwater Areas of the Chesapeake Bay Watershed*, *Journal of Water Law* 21:6 (2010) at 8.

⁸⁶ The Nature Conservancy, "Natural Gas Pipelines," Excerpt from Report 2 of the Pennsylvania Energy Impacts Assessment, December 16, 2011, at 7, available at <http://www.nature.org/courinitatives/regions/northamerica/unitedstates/pennsylvania/ng-pipelines.pdf>

⁸⁷ Beth Brejle, *Pike Conservation Official Fed Up With Gas Company's Violations*, *Pocono Record*, Sept. 20, 2011, <http://www.pocorecord.com/apps/pbcs.dll/article?AID=20110920/NEWS/109200330/-1rso01> (noting numerous violations documented on Tennessee Gas Pipeline Company project).

⁸⁸ David J. Welsch, Forest Service, U.S. Dep't Agric., NA-PR-07-91, *Riparian Forest Buffers: Function and Design for Protection and Enhancement of Water Resources* (1991), available at http://na.fs.fed.us/silo/hubs/n_resource/buffer/cover.htm

⁸⁹ Canadian Association of Petroleum Producers, Canadian Energy Pipeline Association, and Canadian Gas Association, "Pipeline Associated Watercourse Crossings," 1-4 (2005).

⁹⁰ Comments on Environmental Assessment of MARC I Hub Line Project, Exhibit G, FERC Docket No. CP10-480-000, Submittal 20110711-5189 (filed Jul. 22, 2011) (statement of Susan Beecher, Executive Director, Pike County PA Conservation District (Jul. 8, 2011)), available at http://elibrary.ferc.gov/idmws/docket_sheet.asp

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The FERC must also consider cumulative impacts to conservation, aesthetics, and environmental concerns. These include the cumulative impacts to wetlands, fish and wildlife values, flood hazards, floodplain values, water supply and conservation, and water quality. As discussed above, the proposed project will have significant and far-reaching impacts on all of these values, throughout southern Oregon and beyond.

VI. ALTERNATIVES

The alternatives analysis is “the heart of the environmental impact statement,” designed to offer a “clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14. Fundamentally, an agency must “to the fullest extent possible . . . consider alternatives to its action which would reduce environmental damage.” *Calvert Cliffs’ Coordinating Comm. v. U. S. Atomic Energy Comm’n*, 449 F.2d 1109, 1128 (D.C. Cir. 1971) (emphasis in original). Absent this comparative analysis, decisionmakers and the public can neither assess environmental trade-offs nor avoid environmental harms. *See id.* at 1114.

The alternatives analysis must include an adequate range of alternatives. This includes “reasonable alternatives not within the jurisdiction of the lead agency,” as well as “appropriate mitigation measures not already included in the proposed action or alternatives.” 40 C.F.R. § 1502.14. One way in which this requirement can be violated is where an agency defines the purpose and need of the project so narrowly as to preclude alternatives other than the preferred project.

The alternatives analysis must be deep as well as broad. Alternatives must be “rigorously explore[d].” 40 C.F.R. § 1502.14(a). Rigorous exploration requires that the degree of analysis devoted to each alternative must be substantially similar to the degree of analysis devoted to the proposed action.⁹¹ Because alternatives are so central to decisionmaking and mitigation, “the existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” *Oregon Natural Desert Ass’n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1100 (9th Cir. 2010) (internal alterations and citations omitted).

The alternatives analysis is informed by the purpose and need of the project. Alternatives are measured, in part, by their ability to satisfy the project purpose and need. Here, FERC improperly relies upon an implicit statement of purpose and need that is unlawfully narrow. Based on this unlawfully narrow view of purpose and need, FERC improperly rejects the alternative of a smaller marine berth. FERC also improperly rejects several system alternatives that would use existing gas liquefaction “peak shaving” facilities, which would thereby likely avoid many of the liquefaction and pipeline construction impacts. Finally, FERC’s of discussion of alternatives regarding use of electric power both at the South Dunes Power Plant and the Klamath Compressor Station fails to adequately consider potentially environmentally preferable alternatives.

A. The DEIS Improperly Rejects a Smaller Marine Slip Alternative

⁹¹ Council on Environmental Quality, “Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations,” 46 Fed. Reg. 18026, 18027, 18028 (1981), Question 5.

CO34 Continued, page 123 of 138

CO34-196 The statement that the alternatives have been unlawfully measured against a too narrowly defined purpose and need is incorrect. First, the DEIS does not identify a need, or judge any alternative against the need for the project. The Commission will determine the need for the project using the FEIS and other analyses. The EIS analyses and discloses the environmental effects of the project as proposed in the application. See the introduction to Chapter 3 for an explanation of how alternatives are considered.

CO34-196

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

The proposed design includes marine berths far in excess of what Jordan Cove actually proposes to use. This design a marine berth for tugs and escort boats, a berth sufficient to handle LNG vessels as large as 217,000 m³ in capacity, and a third berth for “unspecified commercial ships.” DEIS 3-14. As recognized by the Army Corps of Engineers, an alternative design with lower impacts would be to omit the third berth and reduce the size of the LNG vessel berth to the minimum needed to accommodate the vessels that can use the Coos Bay navigation channel, the 148,000 m³ capacity vessels Jordan Cove actually plans to use. FERC improperly rejected this alternative.

Nothing indicates that this alternative would be infeasible, inconsistent with the purpose and need of the project, or that full consideration is otherwise unwarranted. Beginning with the third marine berth, the DEIS explicitly concludes that this berth is unlikely to actually be used. The alternatives discussion states that this berth is intended to accommodate “plans to increase the commercial use of Coos Bay,” including “a proposed dry bulk cargo terminal, a coal export terminal, an intermodal container terminal, a sea wind turbine assembly area at Henderson Marsh, using the western berth of the Jordan Cove slip, all considered under the general rubric of the Port’s ‘Oregon Gateway Marine Complex.’” DEIS 3-15. Yet the DEIS explicitly concludes that none of these project are likely to come to fruition in the near future. The DEIS explains that “The Port recently lost its partners for the coal export terminal concept.” DEIS 4-1020. “[T]he Port has not secured customers for any of its proposals under its Oregon Gateway Marine Terminal Complex. At this time, no developer has approached Jordan Cove with a request to use the western berth. Therefore, it is not likely that the western berth would be developed any time in the near future” DEIS 4-1021. Because this berth is entirely ancillary to the stated purpose of the Projects, DEIS 1-13, and may never be needed, FERC was required to “rigorously explore” an alternative that would omit this berth. 40 C.F.R. § 1502.14(a). The DEIS is deficient because it provides no discussion of the benefits of this alternative.

Similarly, FERC must fully analyze an alternative that would reduce the size of the LNG vessel slip to the minimum needed to accommodate the vessels Jordan Cove actually plans to use.⁹² The mere possibility that in the future, the Coos Bay navigation channel will be expanded to accommodate larger vessels, and that the Coast Guard might approve the use of such vessels, is not a reasonable basis for excluding this alternative from analysis. This is especially true where, as here, the DEIS acknowledges that these events are merely “possible,” 3-15, but there are no definite plans to undertake any of these actions. Certainly, in discussing a design using a smaller LNG vessel slip, FERC can and should consider the impacts that would occur if this smaller slip was later expanded (i.e., take a hard look at the extent to which constructing and then expanding a slip has greater impact than simply building a larger slip in the first place), but this discussion must include specific information and analysis, and must consider the possibility that future expansion may never be needed or occur.

In addition, FERC must consider an alternative configuration for the area. The DEIS should also evaluate an alternative that evaluates a berth that does not involve the slip dock design. As

⁹² We join the Corps of Engineers in advocating a single alternative that both reduces the size of the LNG vessel slip and omits the third slip.

CO34 Continued, page 124 of 138

- CO34-197 This statement is not correct. The 800-foot slip is needed for safe operation of the terminal.
- CO34-198 Comment noted.

CO34-197

CO34-198

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

originally proposed before 2007, LNG tankers would be docked alongside the shore (not perpendicular to it in a slip dock as is now proposed). Jordan Cove must justify why alternative designs – less impactful both in location and size – are impracticable in this project.

CO34-198
continued

Finally, we note that if FERC does select an alternative of providing future capacity for larger LNG vessels or additional traffic at a third berth, FERC must consider the impacts of utilization of that capacity. The purported benefit of this design is that it facilitates these future activities. If the project is built specifically to accommodate these activities, then they are plainly “reasonably foreseeable future actions,” the impacts of which must be discussed in the cumulative impacts analysis. Yet the DEIS contains essentially no discussion of these impacts.⁹³

CO34-199

B. The DEIS Improperly Rejects Several “System” Alternatives Using Existing Peak-Shaving Liquefaction Facilities

DEIS discusses potential alternate terminal sites as “system alternatives.” Although the DEIS enumerates several such alternatives, it fails to support its basis for rejecting them. In particular, the DEIS does not take the required look at two possibilities that would use existing gas liquefaction facilities as the foundation for LNG export: use of the Gig Harbor, Washington, and Newport, Oregon “peak shaving” liquefaction and LNG storage facilities.

FERC acknowledged the “possibility of converting one of the existing peak shaving LNG storage plants into an LNG export terminal.” DEIS 3-8. Although FERC does not discuss the benefits of these alternatives, use of an existing liquefaction facility is potentially environmentally superior because it would avoid the impacts associated with constructing new liquefaction equipment at the Coos Bay site. Such an alternative would also likely avoid many of the impacts associated with construction of the Pacific Connector Gas Pipeline. Existing liquefaction facilities by definition already have robust connections to the gas pipeline network. Even if existing pipeline infrastructure cannot supply both peak shaving and export needs, it is likely that expansion of existing pipeline networks to meet these needs would have lower overall impacts than construction of the greenfield Pacific Connector Gas Pipeline.

In light of these potential benefits, FERC’s fleeting reasons for rejecting the Gig Harbor and Newport alternatives fall short of the hard look NEPA requires. For Gig Harbor, FERC’s sole basis for rejecting this alternative is that “The PSE peak shaving plant . . . is located about 1 mile from the harbor and would not be accessible to LNG vessels. While it may be feasible to construct a pipeline to transmit LNG from the harbor to the PSE peak shaving facility, such a pipeline would have additional associated environmental impacts.” DEIS 3-8. A one-mile LNG pipeline is certainly feasible. The existing Cove Point, Maryland, LNG import terminal uses a greater than one-mile pipeline to transfer LNG between an offshore pier and LNG storage tanks.⁹⁴ Indeed, the proposed Jordan Cove project itself involves a nearly half-mile pipeline,

⁹³ The only discussion of these impacts commenters have found is a fleeting acknowledgment that, if the Oregon Gateway Project is ever undertaken, this could impact certain sturgeon populations. DEIS 4-1032. The DEIS does not describe these impacts.

⁹⁴ See Environmental Assessment for the Cove Point Liquefaction Project, Docket CP13-113, FERC Accession No. 20140515-4002, Figure 1.2.1-2 (May 15, 2014), available at <http://elibrary.ferc.gov/dmws/common/OpenStat.asp?fileID=13546236>

CO34 Continued, page 125 of 138

CO34-199 The proposed terminal analyzed in this DEIS is geared for the currently proposed capacity. The 800-foot slip is needed for safe operation of the terminal. The channel would only accommodate the LNG tanker size described in the DEIS. Any future expansion would require a new application, which FERC would analyze in a new NEPA document. Possible port expansion was considered in the DEIS Cumulative Effects section; however, the Port has no clients or firm plans, only a desire that the Port develop. Subsequently, it has been determined by the Coast Guard that the entire 800-foot slip would be needed for the safe operation of the LNG terminal. The FEIS has been updated to reflect this information. Therefore, there are no foreseeable actions that would result in cumulative effects to analyze.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

DEIS 1-5. The fact that Gig Harbor alternative would require a slightly longer LNG pipeline than the preferred alternative, and thus have environmental impacts from the pipeline itself, is not a basis for rejecting this alternative from detailed discussion. FERC provides no basis for concluding that this additional half mile of LNG pipeline would have greater environmental impact than construction of an entirely new liquefaction facility—to say nothing of the likely reduction in natural gas supply pipeline construction.

CO34-200

Similarly, for Newport, FERC identifies an additional environmental drawback that would be associated with the Newport alternative—impacts dredging the shipping channel to a greater depth—but no discussion of the environmental benefits of this alternative, much less any comparison of the benefits and drawbacks. The DEIS simply asserts that “with channel depths ranging from 20 to 30 feet[,] [t]he port at Newport could not accommodate LNG vessels without extensive dredging.” DEIS 3-8.

CO34-201

FERC does not assert, or even suggest, that these system alternatives are infeasible or inconsistent with the purpose and need of the project. On the contrary, FERC’s only discussion of the technical capacities of the Gig Harbor and Newport projects suggests that their capacities (1 and 3 bcf/d, DEIS 3-8) have the capacity to provide the 0.8 bcf/d that the Jordan Cove proposes to export. Even if expansion of these facilities was required in order to meet the demands of exports in conjunction with peak shaving (although the record does not indicate that these facilities are currently fully utilized), FERC’s rigorous exploration of these alternatives must address whether expanding these existing projects has lower impacts than construction of an entirely new facility.

C. FERC Must Consider A Hybrid Alternative of Using Electricity from the Grid and a Smaller South Dunes Power Plant.

The DEIS briefly discusses and rejects an alternative of using existing electric power infrastructure to power liquefaction equipment. The DEIS adopts Jordan Cove’s conclusion “that the local public utility system could not meet the power needs for the LNG export terminal if it relied *solely* on [the Bonneville Power Administration] to provide electricity.” DEIS 3-16 (emphasis added). Assuming that this is correct,⁹⁵ FERC should have considered a hybrid alternative that would rely on the public utility system to the greatest extent possible. The fact that the system cannot *solely* meet Jordan Cove’s needs in no way suggests that it cannot *partially* meet these needs. The following page of the DEIS recognizes that the project can combine multiple sources of electricity to reduce reliance on the South Dunes Power Plant, as it explains that the Jordan Cove project will use 30 MW of wind-generated electricity provided by the Principal Power Project if that project is funded and constructed. DEIS 3-17. Similarly, Jordan Cove plans to use grid power “to provide power during times when the South Dunes Power Plant may be temporarily shut down.” DEIS 3-16.

CO34-202

The DEIS should have explored whether increased reliance on the grid, to use whatever electricity the grid *could* provide, would enable either design or operational alternatives that

⁹⁵ The DEIS does not provide any analysis to support this conclusion, nor does it cite any particular document articulating such analysis. As such, commenters and the public are unable to determine whether Jordan Cove’s conclusion is well supported.

CO34 Continued, page 126 of 138

CO34-200 The Gig Harbor pipeline would be transport LNG whereas the proposed pipeline would transport natural gas. The two are very different and have very different impacts and risks. Also, FERC has not received an application for such a project, so there are no details to analyze. If FERC did receive an application, that project would be analyzed in its own EIS. In situations where multiple projects are proposed within a region that could serve similar purposes or compete for the same market the FERC reviews each project individually on its own merits. Where appropriate, we also evaluate projects as potential alternative to other proposals, but the FERC does not choose one winning proposal over others, it lets the market decide what should be built. For alternatives that appear to meet the applicant’s stated purpose, we evaluate each to determine if any would present a significant environmental advantage over the proposed project.

CO34-201 Newport is served by a natural gas pipeline from the Portland area. FERC is not considering an EIS for a possible pipeline from Newport to Coos Bay or expanding the existing pipeline from the main line near Portland to Newport. See section 3.2.2.3 for FERC’s reasons for not considering Newport.

CO34-202 The power plant is not under the jurisdiction of FERC, it is up to the State to decide, through its permitting process, what is developed.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 127 of 138

CO34-203 See the above response.

would either decrease the size of, or decrease utilization of, the South Dunes Power Plant. It is likely, even though the public utility system cannot reliably provide the full 420-MW of power Jordan Cove desires, the utility system can reliably provide a fraction of this power, which would enable a reduction in size of the South Dunes Power Plant. Reducing the capacity of this plant would, in turn, reduce the need for natural gas delivery to the site, which may enable a decrease in pipeline or pipeline compressor station size. Alternatively, if FERC concludes (after a rigorous exploration) that reduction in the capacity of the South Dunes Power Plant is infeasible, FERC must consider an operational alternative that would prioritize use of the grid for power, using the South Dunes Power Plant only to provide electricity needed to supplement that available from the grid, rather than the apparently proposed plan to principally rely on the South Dunes Power Plant and only use the grid as a second choice.

CO34-202
continued

Use of the grid instead of the South Dunes Power Plant has the potential to reduce environmental impact of the project. Of course, if the size of the South Dunes Power Plant can be reduced, this will reduce impacts associated with project construction. Operationally, it is likely that the impacts associated with generating electricity on the broader grid are—and will become—less than the impacts associated with generating electricity onsite. As part of its rigorous exploration of this alternative, FERC must use EPA's Emissions & Generation Resource Integrated Database (eGRID),⁹⁶ to estimate air pollution impacts associated with adding marginal units of electricity demand from the project. eGRID can model demand addition at the level of subregions, states, or by utility.⁹⁷ The eGRID database uses detailed information on historical emissions from electric generating units throughout the United States and associated transmission constraints to define emission rates for each subregion. The database conveniently provides emission rates in units of lb/MWh for the three main greenhouse gases (CO₂, CH₄, and N₂O) as well as for the 2 primary air pollutants associated with power production (SO₂ and NO_x, with NO_x given in annual NO_x rates and ozone season NO_x rates). On a simplistic analysis, eGRID indicates that deriving electricity from the South Dunes Power Plant would have greater greenhouse gas impacts than would using electricity from the grid: eGRID indicates that the CO₂ rate for the WECC Northwest region is 842.58 lbs CO₂/MWh,⁹⁸ whereas the DEIS indicates that the emission rate for the SDPP is at least 922 lbs CO₂e/MWh.⁹⁹ Thus, to the extent that electricity provision can be shifted from the South Dunes Power Plant to the grid, this is likely to reduce greenhouse gas emissions. Of course, eGRID enables FERC to take a harder look at the problem.

CO34-203

⁹⁶ See <http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html>. Information for 2010, for example, is provided at http://www.epa.gov/cleanenergy/documents/egridzips/egrid9thedition_V1-0_year_2010.zip. (EPA, 2010a)

⁹⁷ EPA, *How to use eGRID for Carbon Footprinting Electricity Purchases in Greenhouse Gas Emission Inventories* (July 2012), available at <http://www.epa.gov/ttnchie1/conference/ei20/session3/adjem.pdf>. (EPA, 2012a)

⁹⁸ eGRID 9th edition Version 1.0 Year 2010 GHG Annual Output Emission Rates (note that this figure includes only CO₂, rather than the CO₂e equivalent of all emissions. However, electric generating unit emissions of other greenhouse gases do not significantly skew the comparison between this figure and the South Dunes Power Plant's direct emissions.

⁹⁹ The EIS states that power plant turbines will emit 1,538,170 metric tonnes of CO₂e per year. DEIS 4-895. If this figure assumes round the clock operation at full capacity, this equates to 0.418 MT per MWh: 1,538,170 MT per year / 365 days / 24 hours / 420 MW = 0.418 MT per MWh. If the DEIS's emission estimate assumes less than full capacity, the emission rate would be higher. 0.418 metric tonnes is 922 pounds.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

A further benefit of shifting electricity demand to the grid is that the grid, unlike the South Dunes Power Plant, will get cleaner during the lifetime of the project. EPA's Clean Power Plan, the proposed Clean Air Act section 111(d) rule for greenhouse gas emissions from power plants, as proposed, would require the average emission rate for existing sources in Oregon to meet a target of 372 pounds of carbon dioxide per megawatt hour by 2030¹⁰⁰—significantly more efficient than the proposed South Dunes Power Plant.

Although we have discussed climate benefits of using the grid in lieu of the South Dunes Power Plant, this shift likely provides significant other benefits as well. For example, emissions of other air pollutants are broadly correlated with emissions of greenhouse gases.

D. THE DEIS IMPROPERLY REJECTS THE ALTERNATIVE OF USING ELECTRIC POWER AT THE KLAMATH COMPRESSOR STATION

The DEIS also improperly rejected the alternative of using electric power, instead of gas fired turbines, for the Klamath pipeline compressor station. DEIS 3-72. The DEIS improperly concludes, without any supporting analysis, that “[d]epending on its fuel source, the indirect emissions from [any] power plant [supplying an electric compressor] may or may not be higher than the direct emissions from the gas-fired compressors at Klamath Compressor Station.” *Id.* As we explain above, eGRID and other available tools allow FERC to make informed predictions as to the likely emissions that would result from use of electric power, and preliminary review of these tools indicates that use of electric power would likely have significantly lower emissions than use of gas fired turbines. Mere speculation as to the possibility of a higher impact from this alternative is not the hard look NEPA requires. The other reason given for rejection of an electric compressor alternative is the need to construct an additional electricity line to deliver power to the site. The DEIS acknowledges, however, that Pacific Connector has not verified that existing lines could supply the power needed for the gas fired alternative either: a new power line may need to be constructed either way. DEIS 3-71. More fundamentally, cursory identification of one drawback associated with an alternative is not a valid reason for excluding that alternative from detailed study. Instead, FERC must take a hard look at the two options, to inform an assessment as to whether the environmental benefits of an electric alternative outweigh the costs.

E. Alternatives Relocating Terrestrial Activities to Reduce Disturbance of Aquatic Sites.

Multiple alternatives exist that satisfy the basic project purpose while reducing disturbance of special aquatic sites. A proposed activity is not water dependent if it does not require access or proximity to or siting within a special aquatic site in order to fulfill its basic purpose. 40 C.F.R. § 230.10(a)(3). While the LNG terminal itself may be water-dependent, many other activities proposed in the DEIS are not.

For example, the proposed North Bend worker's camp, the Southwest Oregon Regional Safety Center, and the South Dunes Power Plant all involve discharge of fill material to special aquatic

¹⁰⁰ EPA, Clean Power Plan Proposed Rule Technical Documents, Appendix 1: Proposed Goals (June 2, 2014), available at http://www2.epa.gov/sites/production/files/2014-06/20140602isd-state-goal-data-computation_1.xlsx (EPA, 2014a)

CO34 Continued, page 128 of 138

CO34-204 Comment noted. The reasons quoted in the comment are accurate. We see no reason to conclude otherwise. We see no reason to consider a smaller, less safe facility.

CO34-205 Comment noted.

CO34-204

CO34-205

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

sites, but do not require access or proximity to or siting within the special aquatic sites that will be impacted.

For non-water dependent activities, practicable alternatives that do not involve special aquatic sites are presumed to be available. *Id.* In other words, a non-water dependent activity necessitates a more persuasive showing than otherwise concerning the lack of alternatives. Here, the DEIS fails to “clearly demonstrate” that practicable alternatives for non-water dependent activities are not available to overcome this presumption. The workers’ camp proposal includes construction of a 3-span, 235 feet long and 43 feet wide bridge to span a tidal mudflat in Coos Bay. The bridge will require placement of fill in two wetlands and impacts to tidal waters of Coos Bay. The DEIS does not include a discussion of any alternatives to this alignment, let alone analysis clearly demonstrating that no practicable alternatives to these impacts are available.

F. Alternatives to Size and Design of Key Project Elements

The alternatives analysis presented in the DEIS fail to assess important project design alternatives. For instance, the application should evaluate in detail a terminal design that involves a much smaller footprint, rather than assuming that the project must be sized for 1 bcf/d and very large LNG tankers. Additionally, the FERC should evaluate an alternative in detail that uses only the 12-inch Coos County pipeline (which would entail reducing the scale of the LNG project).

The DEIS does not evaluate offshore design alternatives. The applicants should evaluate an offshore design in detail and describe why areas that regularly face harsh weather, such as hurricanes, are successfully sited and built. NMFS argues in its previous comments that the analysis, and rejection of an offshore proposal as an alternative is inadequate “[g]iven existing or proposed terminals or other similar structures located in harsh environmental conditions elsewhere (e.g. Calypso LNG terminal off the eastern coast of Florida, Troll Natural Gas Fields in the North Sea with depths of 1,100 feet).” The applicants should explain further why the placement of terminals offshore is not feasible. Proposals currently exist to site wind and wave energy structures off the coast of Oregon and Washington. In fact, an offshore wind project is proposed for location 3 miles offshore from Coos Bay. The DEIS acknowledges and describes this Principle Power project. DEIS at 3-17. The DEIS does not adequately address this potential alternative and fails to weigh the significant reduction in public safety risks and disturbance to the Coos Bay Estuary against potential added costs.

The DEIS does not provide an adequate analysis of dredging method alternatives and a clear indication of why the proposed methods will minimize impacts. The DEIS indicates that both mechanical and hydraulic dredging may be used. Hydraulic pipeline dredging has the potential to impact aquatic species through entrainment and impingement. Additionally, other dredge methods will result in significant turbidity in Coos Bay. Although some specially designed hydraulic cutterhead dredges may reach 0.5 percent spillage, the DEIS fails to disclose what kind of cutterhead dredge will be used for dredging. This is vitally important information for the public and the agencies to assess the veracity of the applicant’s statements, because without knowing what type of cutterhead dredge will be used, the public cannot begin to evaluate what kind of sedimentation dredging activities will cause. Furthermore, any modeling conducted on behalf of the Project is suspect until a spillage rate can be determined. All cutterhead dredges are

CO34-205
continued

CO34-206

CO34-207

CO34-208

CO34 Continued, page 129 of 138

- CO34-206 The Coast Guard has determined that the 800-foot marine slip would be needed for safe operation of the LNG terminal. The information in section 3.3.2.2 of the DEIS has been included in the FEIS.
- CO34-207 The comment is correct, we do not consider an off shore alternative. Loading LNG in the Pacific Ocean, rather than in a protected marina, would have obvious safety issues.
- CO34-208 Dredging and the disposal of dredged material are analyzed. Dredging is not a new activity, the channel has been dredged for decades.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

not the same. Studies indicate that conventional cutterhead dredging "can liberate considerable amounts of turbidity and associated contaminants to overlying water." Cooke, 2005.

CO34-208
continued

Selection of the proper cutterhead for the type of sediment, in addition to correct rotational speed and hydraulic suction, to obtain reduced suspension rates of sediments is rarely achieved. Herlich, 2000. Therefore, knowing not just the type of dredge used but also the anticipated methods of using the dredging equipment are important factors that must be disclosed for the public and agencies to properly analyze the effects of dredging at the proposed project. The FERC must make specific findings on the types of dredging equipment. The DEIS should present an analysis of alternative methods in order for the FERC to fully analyze the impacts dredging will have on turbidity and overall pollution. In addition the DEIS does not discuss alternative locations for the disposal of dredged material.

The DEIS does not evaluate alternatives to avoid impacts to estuarine oysters. The pipeline route across Haynes Inlet between MP 1.7 and 4.1 has the potential to significantly impact both native Olympia oysters and commercially grown Pacific oysters. The proposed route would be directly adjacent to commercial oyster beds. The use of the open cut pipeline installation method in this area and the associated plumes in turbidity, as well as release of any existing contaminants in the bay muds, could have significant impacts on these oysters and the economic values they produce to the Coos Bay community. While Jordan Cove proposes to utilize turbidity curtains as practicable to prevent sediment transport, these measures cannot control release of bacteria or other contaminants that may be present. The DEIS does not discuss alternatives to avoid impacting these oyster species or the economic impacts that could result from these activities.

CO34-209

The DEIS fails to present a comprehensive description of alternative fish screen designs and their impacts. The current proposal appears to dismiss fish screening, totally ignoring ODFW's prior comments stating, the "Coast Guard's concerns should not be interpreted to mean that ballast and cooling water screening cannot occur. Screening can and should occur to reduce negative impacts to fish as a result of this project. Additional marine industry review and permitting may be necessary, but this has not eliminated the opportunity to develop and use fish screens." State of Oregon 2009 FEIS comments at 37. The DEIS should evaluate clearly fish screen alternatives and the impacts of the proposed screening alternative, which would negatively impact ESA protected Coho salmon.

CO34-210

The application does not adequately evaluate alternatives in timing of construction activities. The DEIS states that "in general" construction of the pipeline would be timed to avoid periods of major juvenile or adult anadromous salmonid migrations in freshwater based on allowed in-water work periods, but notes that there may be modifications to the timing of construction. DEIS at 4-596. The application fails to justify why certain crossings will be constructed outside of in-water work windows.

CO34-211

The DEIS also fails to provide adequate information regarding alternatives for stream crossings. The application does not justify the widespread use of open-cut crossings. Additionally, the application fails to adequately evaluate alternatives that will be necessary if HDD crossings fail. Mitigation measures for HDD failures are completely inadequate, and the Williams pipeline company's own data show that HDDs for 36-inch pipelines fail unacceptably often. See FLOW

130

CO34 Continued, page 130 of 138

- CO34-209 Effects on oysters are discussed in section 4.6.2.3. Additional analysis has been included in the FEIS.
- CO34-210 FERC cannot require screening of vessels intakes for this project because any vessel requirements are under the jurisdiction of the US Coast Guard. We have addressed the impacts to marine resources assuming there is no screening (see section 4.6.2.2).
- CO34-211 Pacific connector plans to cross all stream during the designated ODFW fish crossing window. Crossing periods may be further refined by local ODFW biologists. For example some crossing periods may be modified on site specific cases as designated by ODFW to further protect species, (e.g. migration periods may occur within the designated crossing window). Any deviations from designated crossing windows would be made only with ODFW approval.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

2008 DEIS Comments at 102-103. In its own experience, recent HDDs for this size of pipeline have failed one out of every three attempts – that’s a full 33% of the time. *See Williams Sept. 2007 Presentation, Williams Sept. 2007 documentation of its HDD Experience.* The DEIS does not include adequate information on alternative measures that will be used if the proposed crossing methods are unsuccessful.

The HDD failure issue is particularly critical for the Rogue River HDD. The ODFW has repeatedly commented that the HDD contingency plan for the Rogue River crossing is inadequate, and that a wet open-cut crossing of the Rogue River is not currently permissible. The ODFW commented: “ODFW does not consider a wet open-cut to be an acceptable alternative due to the impacts to fish, fish habitat, the river, as well as impacts to the sport fishery and the economy of upper river communities. ODFW strongly disagrees with the wet open-cut as an alternative crossing method on the Rogue River.” State of Oregon 2009 FEIS comments at 40.

The DEIS fails to provide an adequate analysis of mitigation alternatives. For instance, proposed mitigation measures to avoid and minimize sedimentation and erosion in stream crossings are inadequately site-specific and are generally outlined in the ECRP. FERC’s analysis and the DEIS indicate that details of mitigation would depend on the source of the problem. According to the State of Oregon’s 2008 DEIS comments, the lack of detailed mitigation measures and alternatives is inadequate. “In order to be effective, a mitigation measure must be supported by analytical data demonstrating why it will constitute an adequate buffer against the negative impacts that may result from the authorized activity. The DEIS’s reliance on future modifications does not provide enough protection under this standard. The public must be able to review, in advance, how specific measures will bring projects into compliance with environmental standards.” State of Oregon 2008 DEIS comments at 32. The DEIS does not resolve this outstanding issue.

Given the lack of analysis on the efficacy of mitigation measures, it is also unclear whether the pipeline should have been rerouted or altered to avoid key resources. For instance, proposed measures may be inadequate to avoid increased turbidity, temperature discharges, erosion and sedimentation in the proposed crossing of the Coquille River and other streams and rivers. The DEIS does not show that riparian clearing has been avoided and minimized in all areas. The ECRP includes general methods, but does not justify why limitations on construction activities in riparian areas cannot be increased. The State of Oregon noted that the 2008 DEIS did not include adequate analysis of avoiding impacts to waterbodies. “At some crossings, PC would reduce the construction ROW width to 75 feet at the crossing of forested and scrub shrub wetlands to minimize impacts to these resources. Alternative methods of crossings with less or no impact must be explored and presented. Boring underneath the forested wetlands could avoid impacts to high functioning wetlands.” State of Oregon 2008 DEIS comments at 95. These issues remained unresolved in the current DEIS, and have not been adequately addressed in the alternatives analysis for stream crossings and mitigation measures in the DEIS.

The DEIS application does not provide adequate information to justify its route selection through Coos Bay. The selection of the route through Coos Bay unduly impacts the Coos Bay Estuary and Haynes Inlet, a sensitive area for both shellfish and fish habitat, as well as the economies that rely on those areas (such as oyster growers). The State of Oregon recommended, “Find

CO34-212

CO34-213

CO34-214

CO34 Continued, page 131 of 138

CO34-212 The ECRP (Appendix I of the POD) identifies temporary and permanent erosion control measures and site specific mitigation measures. As a follow-up measure to help ensure crossing actions would not adversely affect stream bank and channel structure, Pacific Connector would monitor all stream crossings, regardless of risk, quarterly for 2 years after construction. Any adverse issues found during the monitoring with channel stability or habitat would be remediated. Additional monitoring would occur periodically over a 10-year period with implementation of remediation as needed.

The effects to stream temperature, LWD, sedimentation have been acknowledged and the mitigation in all forms (avoidance, minimization, BMPs, and compensation) that would be implemented were presented in the DEIS and associated documents (see Section 4.6.2.3, Section 4.1.3, Appendix S – Wildlife Habitat Mitigation Plan, and Applicants Draft Compensatory Mitigation Plan). Consultation with listed species managing agencies (NMFS and USFWS) will ultimately result in determinations of whether some forms of additional mitigation is needed to protect listed species and their critical habitat.

CO34-213 Not all impacts can be avoided. Detailed crossing designs and avoidance and mitigation measures would be required, including those required by the State under its permitting process. FERC’s Plan and Procedures reduce impacts to acceptable levels. In regard to the comment about boring underneath forested wetlands, even if feasible, it would require clearing additional upland forest in order to operate the boring equipment. This would trade one type of impact for another.

CO34-214 FERC has considered several routes across the bay over the past several years, see the analysis in the 2007 DEIS and the 2009 FEIS, referenced in Chapter 1. A completely upland route from the terminal to Malin is not possible, as a map will clearly show. A route that goes north through the National Forest, and crosses the Coos River rather than the Bay would have greater upland impacts and cross many smaller streams. It would also impact more people and terrestrial species.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

another (upland) route to avoid impacts to the Coos Bay estuary to the maximum extent possible. This proposal maximizes impacts to waters of the state. More thorough alternatives analysis is required." State of Oregon 2008 DEIS comments at 94. The current proposal does not minimize impacts to the estuary. It also does not explain why an alternative involving a significantly reduced construction impact area would not be practicable.

CO34-214
continued

In summary, the applicants do not provide sufficient reasoning or detail to justify its dismissal of many design and project alternatives that could have a less adverse impact on the aquatic ecosystem. In particular, little consideration of the relative costs, technologies, and logistics is present in the alternatives rejected or disregarded by the project proponents. The applicants provide cursory and inaccurate analysis of the impacts of its dredge/fill activities, and the FERC must find that practicable alternatives exist to severely degrading the Coos Bay Estuary, wetlands and rivers impacted by the terminal and pipeline. "An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 320.10(a)(2). The alternatives analysis fails to address many alternatives, and some alternatives are given such cursory consideration that it is impossible to realistically conclude they are not practicable. This includes changes to terminal design, turning basin size and design, alternative LNG sites, and both major and minor route variations on the pipeline route.

G. Alternative Rogue River Crossing.

Pete Samarin, a lead Oregon Department of Fish and Wildlife (ODFW) biologist for the project reports that ODFW proposed crossing the Rogue River upstream of Lost Creek Lake to avoid wild salmon habitat and potential water quality issues in the Rogue basin. We cannot find any reference to such a proposal in either the import FEIS or the export DEIS. The FERC must evaluate the feasibility of this alternative in the EIS or identify where it was evaluated in the export DEIS. What was the name of the ODFW suggested route?

CO34-215

VII. INCOMPLETE AND MISSING INFORMATION

There are many instances of missing information in the DEIS that make public review and comment impossible.

For example, the biological assessment, which is referenced dozens of times in the DEIS, was not available to the public for review prior to the close of the public comment period. The regulations implementing the National Environmental Policy Act (NEPA) state that

If an agency prepares an appendix to an environmental impact statement the appendix shall:

- (a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference (§ 1502.21)).
- (b) Normally consist of material which substantiates any analysis fundamental to the impact statement.

CO34 Continued, page 132 of 138

CO34-215 An EIS need not consider every possible alternative suggested. The DEIS evaluates crossing methods in section 4.4.2.2. The crossing plan is included in Appendix 2G to Resource Report 2 of Pacific Connector's June 6, 2013 application with the FERC. The entire application is available in electronic format for public viewing via the internet on the FERC webpage (www.ferc.gov) through our eLibrary system. Also see the HDD Contingency Plan attached as Appendix 2H to Resource Report 2. See the specific plane for crossing the Rogue River in that section. The State will consider the proposed crossing methods and location as part of their permit process.

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

- (c) Normally be analytic and relevant to the decision to be made.
- (d) Be circulated with the environmental impact statement or be readily available on request.

40 C.F.R. § 1502.18. The NEPA regulations also stated that if the agency elects to incorporate by reference material relevant to the environmental impact statement (EIS):

Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference.

40 C.F.R. § 1502.21 (emphasis added). Taken together, these provisions require FERC to make available, during the public comment process, information that is referenced in the EIS and is material to the public's understanding of the environmental consequences of the proposed action.

The failure to provide information relevant to the public's review of an EIS, and is referenced in – and has been incorporated by reference by – the EIS, violates the National Environmental Policy Act. The Oregon Federal District Court recently held based on similar facts that the failure to provide specialist reports – similar to the biological assessment for the Jordan Cove/Pacific Connector project – violates the law. *League of Wilderness Defenders v. Connaughton*, No. 12-2271-HZ (D. Or. Dec. 9, 2014). Failure to make this information available to the public is arbitrary, capricious, and not in accordance with law. 5 U.S.C. § 706(2)(A).

To be clear, commentors are not arguing that biological assessments *per se* are subject to notice and comment. Instead, based on NEPA case law, if the DEIS relies on information for its conclusions and analysis, then that material must also be available to the public. In this case, the BA is not even complete, much less made available for public review, even though FERC relies on it for the vast majority of its effects analysis and conclusions. Not only does this violate 40 C.F.R. § 1502.18 and 40 C.F.R. § 1502.21, but also suggests that FERC has made a pre-determined conclusion without adequate support in the record. 5 U.S.C. § 706(2)(A).

Another example of missing information is the incomplete draft Hydrostatic Testing Plan. The DEIS states that the plan, "includes measures to prevent the transfer of aquatic invasive species and pathogens from one watershed to another." DEIS at 4-397. However, this draft Hydrostatic Testing Plan has not been provided to the public. Further, it does not appear from this brief description, that the draft plan includes the information related to discharge locations and dissipation measures necessary to evaluate the potential effects on water quality standards.

Other information was also omitted from the DEIS. For example, the DEIS notes that a great deal of information was lacking or not yet available, and provides several recommendations regarding providing FERC with that information. We request that that information be made

CO34 Continued, page 133 of 138

CO34-216 Hydrostatic testing is discussed in section 4.4.4.2.2. As noted in that section, a draft plan has been developed. Contrary to what the comment states, this plan has been made available to the public. It is Appendix M to the Plan of Development (POD), which is available on the FERC Web site. Water sources and discharge areas would be are subject to review by ODEQ and ODFW. ODWR would follow its own process for evaluating this process.

CO34-217 A draft EIS, by its very nature, does not have all the information that will be included in the Final EIS. Also, some information will not be known until the State and other federal agencies complete their permitting processes.

CO34-216

CO34-217

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 134 of 138

publicly available as well, particularly submissions filed with the Secretary per recommendations 14 through 26, and 48 through 52, should be subject to a minimum of a 30 day public comment period with public comments taken into account before issuance of the Final EIS and any approval of the project by FERC. Please note that the numbering of Recommendations is incorrect. There are two separate Recommendations listed for numbers 17, 18 and 19.

We also note that on February 12th 2015, one day before the end of the comment period, the applicant filed additional information associated with recommendations (pertaining to missing information) 15, 16, and 45. Commenters are unable to review this information before the close of the comment period, and again reiterate that NEPA requires that any information relied upon by the agency must be available for public review before a decision is made. 40 C.F.R. § 1502.21. We therefore renew our request for an extension of the comment period for this DEIS, even though such a request is futile.

VIII. CONCLUSION

For the reasons set forth above, the DEIS fails to take a hard look at the impacts of the proposed projects. The DEIS fails to support its conclusions that the projects would have only "some limited adverse environmental impacts," that "most of impacts would be reduced to less-than-significant levels," or that the projects "would be an environmentally acceptable action." DEIS 5-1. FERC therefore cannot proceed without revising its analysis. Because of the extent of revisions necessary, any revised analysis must be made available for further public comment prior to any FERC decision to grant the pending applications. More broadly, the undersigned continue to contend that the adverse environmental and other impacts of these projects demonstrate that the projects are contrary to the public interest and should be denied.

Sincerely,

Susan Jane M. Brown, Staff Attorney
Western Environmental Law Center
1216 Lincoln
Eugene, Oregon 97401
Ph: 503-914-1323
brown@westernlaw.org

Nathan Matthews, Staff Attorney
Sierra Club
85 2nd St., Second Floor
San Francisco, California 94105
(415) 977-5695
nathan.matthews@sierraclub.org

Lesley Adams, Western Regional Coordinator
Waterkeeper Alliance
PO Box 240,

CO34-217
continued

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 135 of 138

Talent, OR. 97540
541-897-0208
ladams@waterkeeper.org

Phillip Johnson, Executive Director
Oregon Shores Conservation Coalition
P.O. Box 33
Seal Rock, OR 97376
(503) 754-9303
phillip@oregonshores.org

Joseph Quinn, Conservation Chair
Umpqua Watersheds, Inc.
P.O. Box 101
Roseburg, OR. 97470

Francis Eatherington, Conservation Director
Cascadia Wildlands
P.O. Box 10455
Eugene, OR 97440
541-643-1309

Doug Heiken, Oregon Wild
P.O. Box 11648
Eugene, OR. 97440
dhv@oregonwild.org
541-344-0675

Courtney Johnson, Staff Attorney
Crag Law Center
917 SW Oak, Suite 417
Portland, OR. 97205
(503) 525-2728

Stacey McLaughlin, Chair
Pipeline Awareness Southern Oregon
799 Glory Lane
Myrtle Creek, OR. 97457

Stanley Petrowski, President
Southern Oregon Rural Community Partnership
34620 Tiller Trail Hwy.
Tiller, OR. 97484

Jared M. Margolis, Staff Attorney | Endangered Species Program
Center for Biological Diversity

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 136 of 138

2852 Willamette St. # 171
Eugene, OR 97405
Office (971) 717-6404
jmargolis@biologicaldiversity.org

Max Beeken
Coast Range Forest Watch
PO Box 611
Coos Bay, OR. 97420
coastrangeforestwatch@gmail.com

Hannah Sohl, Director
Rogue Climate
283 Scenic Dr.
Ashland, OR. 97520
541-840-1065
Email: Hannahsohl@gmail.com

Forrest English, Program Director
Rogue Riverkeeper
PO Box 102
Ashland, OR. 97520
541-488-9831
forrest@rogueriverkeeper.org

Konrad Fisher, Executive Director
Klamath Riverkeeper
PO Box 751
Somes Bar, CA 95568
(530) 627-3311
info@klamathriver.org
Dan Serres, Conservation Director
Columbia Riverkeeper
1125 SE Madison Suite 103A
Portland, OR 97214
dan@columbiariverkeeper.org

Julia DeGraw, Northwest Organizer
Food & Water Watch
917 SW Oak St. Ste. 404
Portland, OR 97205
971-266-4528

John G. Ward, Conservation Chair
Rogue Flyfishers

136

20150213-5259 FERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 Continued, page 137 of 138

1525 Baldy Creek Road
Ashland, OR 97520
e_john_ward@msn.com
541-482-2859

Glen H. Spain
Pacific Coast Federation of Fishermen's Associations
PO Box 11170
Eugene, OR 97440-3370
541.689.2000
www.pcffa.org
fishliffr@aol.com

Glen Spain
Institute for Fisheries Resources
PO Box 29196
San Francisco, CA 94129-0196
415.561.3474
www.ifrfish.org

Patty Hine, Deb McGee & Mary DeMocker
350EUGENE
Zap_Oregon@MSN.com
541-343-5091

20150213-5259 PERC PDF (Unofficial) 2/13/2015 3:29:00 PM

CO34 **Continued, page 138 of 138**

Certificate of Service

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at San Francisco, CA this 13th day of February, 2015.

/s/Nathan Matthews
Nathan Matthews
Sierra Club Environmental Law Program
85 2nd St., Second Floor
San Francisco, CA 94105